APRIL 1982 NUMBER 452 -- Part II

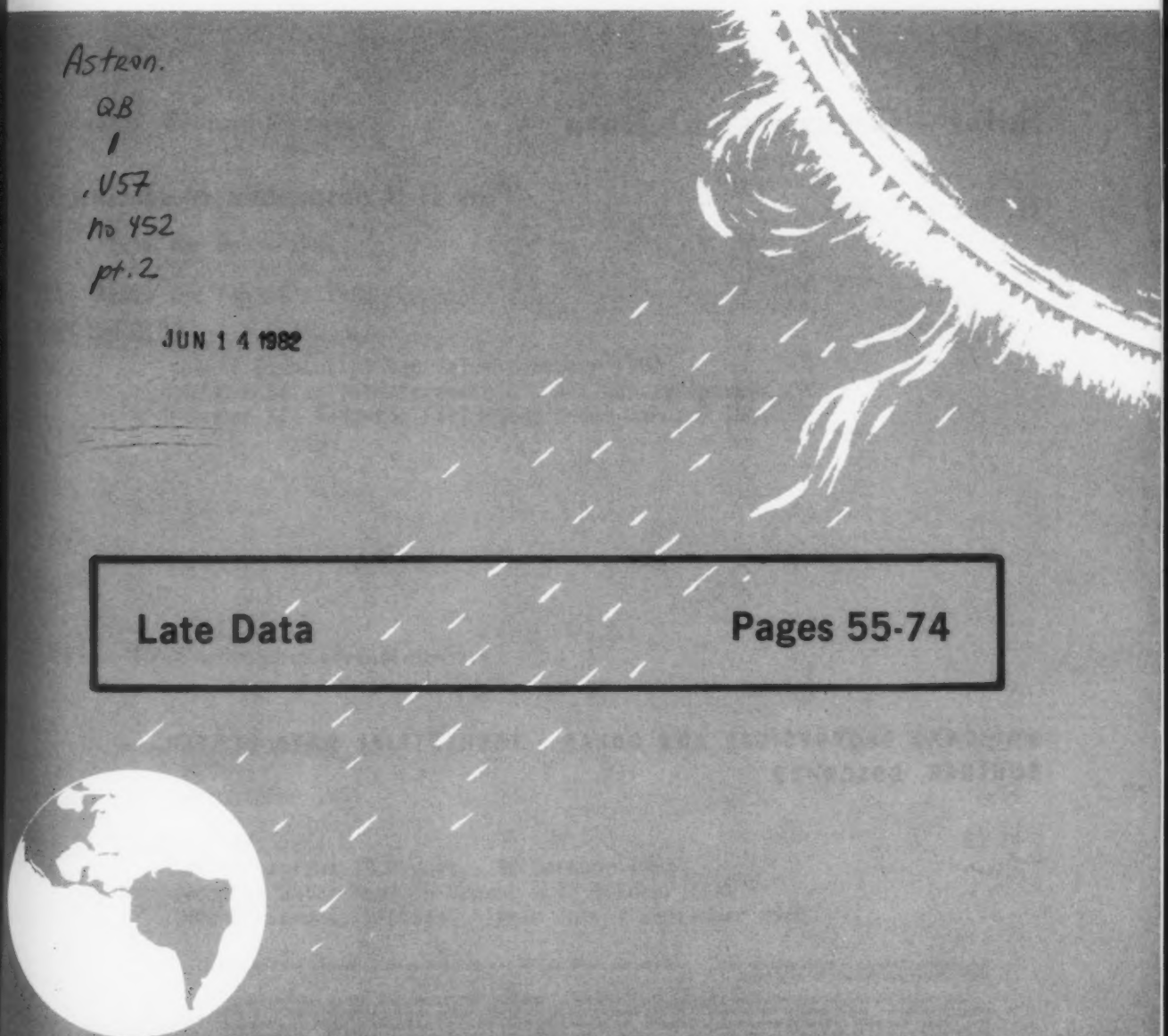
Solar-Geophysical Data comprehensive reports

Data for October 1981 & Miscellanea

Explanation of Data Reports Issued as Number 450 (Supplement) February 1982

Astron.
QB
1
.U57
no 452
pt.2

JUN 14 1982



Late Data **Pages 55-74**

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA AND INFORMATION SERVICE / BOULDER, COLORADO

U.S. DEPARTMENT OF COMMERCE
Malcolm Baldrige, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
John V. Byrne, Administrator
ENVIRONMENTAL DATA AND INFORMATION SERVICE
Margaret E. Courain, Acting Director

Solar - Geophysical Data

NO. 452 APRIL 1982

Part II (Comprehensive Reports)

DATA FOR
OCTOBER 1981

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA/EDIS/NGSDC, D631, 325 Broadway, Boulder, Colorado 80303.

For sale through the National Geophysical and Solar-Terrestrial Data Center, NOAA/EDIS, D631, 325 Broadway, Boulder, Colorado 80303. Subscription Price: $64.00 annually for both part I (Prompt Reports) and part II (Comprehensive Reports) or $32.00 annually for either part. Annual supplement containing explanation is included. For foreign mailing add $42.00 for both parts or $21.00 for either part. Single issue price is $3.00 for either part and $2.50 for the extra issue. Make checks and money orders payable to: Department of Commerce, NOAA/NGSDC. Note: $4.00 handling charge per order.

To standardize referencing these reports in the open literature, the following format is recommended:
Solar-Geophysical Data, 450 Part I (or Part II), pages, February 1982, U.S. Department of Commerce (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 452

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

CONTENTS

Part I (Prompt Reports)

	PAGE
Index for 1981-1982	2
Data for March 1982	3-44
Data for February 1982	45-160
Late Data Hourly Equatorial Dst Values January 1982 169 MHz Solar Interferometric Chart Nancay January 1982 Pioneer XII Magnetic Field Magnitudes January 1982	161-165

Part II (Comprehensive Reports)

Index for 1981-1982	2
Data for October 1981	3-54
Miscellaneous Data Active Regions 18 August - 12 October 1981 Synoptic Solar Maps 18 August - 12 October 1981 IMP8 Electrons, Protons, Alphas July - September 1980	55-74

DETAILED COVERAGE FOR 1980-81 PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1981 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1982 Jan	Feb	Mar
A.	SOLAR AND INTERPLANETARY PHENOMENA													
A.1	Sunspot Drawings	441A 58	442A 52	443A 44	444A 52	445A 54	446A 40	447A 54	448A 52	449A 50	450A 42	451A 58	452A 50	
A.2aa	International Provisional Relative Sunspot Numbers R_I	440A 11	441A 13	442A 11	443A 9	444A 11	445A 11	446A 11	447A 11	448A 11	449A 11	450A 11	451A 11	452A 11
A.2c	American Relative Sunspot Numbers Ra	440A 11	441A 13	442A 11	443A 9	444A 11	445A 11	446A 11	447A 11	448A 11	449A 11	450A 11	451A 11	452A 11
A.3a	Mt. Wilson Magnetograms	441A 58	442A 52	443A 44	444A 52	445A 54	446A 40	447A 54	448A 52	449A 50	450A 42	451A 58	452A 50	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	441A120	442A112	443A106	444A112	445A116	447A163	447A114	448A114	449A110	450A104	451A120	452A106	
A.3c	Kitt Peak Magnetograms	441A 58	442A 52	443A 44	444A 52	445A 54	446A 40	447A 54	448A 52	449A 50	450A 42	451A 58	452A 50	
A.3d	Mean Solar Magnetic Field (Stanford)	440A 46	441A 50	442A 44	443A 38	444A 46	445A 47	446A 34	447A 46	448A 44	449A 38	450A 34	451A 50	452A 42
A.3e	Stanford Magnetograms	441A 58	442A 52	443A 44	444A 52	445A 54	446A 40	447A 54	448A 52	449A 50	450A 42	451A 58	452A 50	
A.4	H-alpha Filtergrams	441A 58	442A 52	443A 44	444A 52	445A 54	446A 40	447A 54	448A 52	449A 50	450A 42	451A 58	452A 50	
A.5	Calcium Plage Drawings - Mt. Wilson or Big Bear	441A 58	442A 52	443A 44	444A 52	445A 54	446A 40	447A 54	448A 52	449A 50	450A 42	451A 58	452A 50	
A.5a	Calcium Plage (Mt. Wilson or Big Bear) and Sunspot Regions	441A120	442A112	443A106	444A112	445A116	447A163	447A114	448A114	449A110	450A104	451A120	452A106	
A.5b	Mt. Wilson or Big Bear Daily Calcium Plage Indices	441A135	442A127	443A119	444A122	445A129	447A175	447A128	449A172	449A127	450A118	451A135	452A118	
A.6	H-alpha Synoptic Charts	441A 54	442A 48	443A 42	444A 50	445A 52	446A 38	447A 50	448A 48	449A 42	450A 38	451A 54	452A 46	
A.6b	Synoptic Chart and Active Regions (Paris)	446B 79	447B 76	448B 40	450B 66	450B 67	451B 95	452B 56						
A.6c	Stanford Solar Magnetic Field Synoptic Charts	441A 55	442A 49	443A 43	444A 51	445A 53	446A 39	447A 51	448A 50	449A 44	450A 39	451A 55	452A 47	
A.6d	Kitt Peak Solar Magnetic Field Synoptic Charts	441A 56	442A 50	443A190	449A192	449A194	449A196	449A198	449A 46	449A 47	450A 40	451A 56	452A 48	
A.6e	Mass Ejections from the Sun	445B 57	446B 74	447B 40	448B 36	449B 64	450B 60	451B 45	452B 53					
A.7f	Helium D3 Chromosphere (Big Bear)	441A170	---	---	443A 35	444A 43	---	446A 30	---	448A 40				
A.7g	Helium Synoptic Maps (KPNO)	441A 57	449A188	449A189	449A191	449A193	449A197	449A199	449A 48	449A 49	---	451A 57	452A 49	
A.7h	Coronal Line Emission (Sac Peak)	441A 58	442A 52	443A 44	444A 52	445A 54	446A 40	447A 54	448A 52	449A 50	450A 42	451A 58	452A 50	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	440A 11	441A 13	442A 11	443A 9	444A 11	445A 11	446A 11	447A 11	448A 11	449A 11	450A 11	451A 11	452A 11
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (ARO-Ottawa)	440A 11	441A 13	442A 11	443A 9	444A 11	445A 11	446A 11	447A 11	448A 11	449A 11	450A 11	451A 11	452A 11
A.8g	Daily Values of Adjusted Solar Flux (AFGL)	440A 11	441A 13	442A 11	443A 9	444A 11	445A 11	---	447A 11	448A 11	449A 11	450A 11	451A 11	452A 11
A.10a	169 MHz - Interferometric Observations (Nancay)	440A 29	442A160	442A 27	443A 23	444A 27	445A 27	446A 20	447A 28	448A 25	449A 25	450A 23	452A162	452A 28
A.10c	21 cm East-West Solar Scans (Fleurs)	440A 32	441A 33	442A 30	443A 26	444A 30	445A 30	446A 23	447A 32	448A 28	449A 28	450A 26	451A 33	452A 31
A.10d	43 cm East-West Solar Scans (Fleurs)	440A 33	441A 34	442A 31	443A 27	444A 31	445A 31	446A 24	447A 33	448A 29	449A 29	450A 27	451A 34	452A 32
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	440A 31	441A 32	442A 29	443A 25	444A 29	445A 29	446A 22	447A 31	448A 27	449A 27	450A 25	451A 32	452A 30
A.10f	3 cm East-West Solar Scans (Toyokawa)	440A 30	441A 31	442A 28	443A 24	444A 28	445A 30	---	447A 29	448A 26	449A 26	450A 24	451A 31	452A 29
A.10g	8 cm East-West Solar Scans (Toyokawa)							446A 21	447A 30	---	---	---	---	---
A.11g	Solar X-ray (SMS/GOES) (graphs)	445B 51	446B 69	447B 34	448B 31	449B 58	450B 54	451B 40	452B 47					
A.12e	Energetic Solar Particles (IMP H & J)			450B 58	449B 98	452B 60	452B 65	452B 70						
A.13d	Solar Wind from IPS Measurements	442A161	442A161	442A 39	443A 32	445A170	445A 42	447A160	447A 41	448A 38	451A166	451A169	451A 45	
A.13e	Solar Plasma (IMP H & J)	449B105	449B107	449B108										
A.13f	Solar Wind (Pioneer 12 (Venus))	442A170	442A171	442A 45	443A 39	444A 47	445A 45	446A 31	447A 43	448A 41	449A 35	450A 31	451A 51	452A 43
A.17	Interplanetary Magnetic Field (Pioneer 12)	---	---	---	444A126	445A135	446A107	447A129	450A148	---	---	452A163	452A123	
A.17c	Inferred IP Magnetic Field	440A 44	441A 48	442A 42	443A 36	444A 44	445A 46	446A 32	447A 44	448A 42	449A 36	450A 32	451A 48	452A 40
B.	IONOSPHERIC (AND RADIO WAVE PROPAGATION) PHENOMENA													
B.52	Graphs of Transmission Frequency Range	441A167	442A156	443A150	444A148	445A166	446A140	447A156	448A154	449A164	450A144	451A162	452A158	
B.53	Quality Figures Based on Frequency Ranges	443A166	442A158	443A149	444A150	445A165	446A139	447A158	448A156	449A166	450A143	451A161	452A160	
C.	FLARE-ASSOCIATED EVENTS													
C.1a	Optical Observations Flares	440A 18	441A 18	442A 16	443A 15	444A 16	445A 16	446A 16	447A 16	448A 16	449A 16	450A 16	451A 16	452A 16
C.1ba	Optical Observations Flares (Standardized Data) 1979-80	449B 68	451B 48											
C.1d	Flare Patrol Observations	440A 28	441A 30	442A 26	443A 22	444A 26	445A 26	446A 19	448A158	---	449A 24	450A 22	451A 30	452A 27
C.1d	Flare Patrol Observations 1979-80	449B 95	451B 92											
C.1e	Flare Indices (by day) 1979-80	449B 94	451B 91											
C.1f	Flare Indices (by Region) 1979-80													
C.3	Solar Radio Waves - Outstanding Occurrences	445B 5	446B 5	447B 4	448B 4	449B 4	450B 4	451B 4	452B 4					
	Solar Radio Waves - Fixed Frequencies - Selected	440A 34	441A 35	442A 32	443A 28	444A 32	445A 32	446A 25	447A 34	448A 30	449A 30	450A 28	451A 35	452A 33
C.4a	Solar Radio Spectral Obs. (Fort Davis)	441A136	442A134	443A123	444A127	445A136	446A108	447A130	448A134	449A132	450A122	451A140	452A124	
C.4d	Solar Radio Spectral Obs. (Culgoora)	441A136	443A154	443A123	444A127	445A136	446A108	447A130	448A173	449A132	450A122	451A140	452A124	
C.4e	Solar Radio Spectral Obs. (Weissenau)	442A134	443A123	445A174	445A136	445A136	446A108	447A130	448A173	449A132	450A122	451A140	452A124	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	441A136	442A134	443A123	444A127	445A136	446A108	447A130	448A134	449A132	450A122	451A140	452A124	
C.4h	Solar Radio Spectral Obs. (Dwingeloo)	441A136	442A134	443A123	444A127	445A136	446A108	447A130	448A134	449A132	450A122			
C.4i	Solar Radio Spectral Obs. (Bleien)	441A136	442A134	443A123	44A127	445A136	---	---	---	---	---	451A140	452A124	
C.4j	Solar Radio Spectral Obs. (Manila)													
C.4k	Solar Radio Spectral Obs. (Learmonth)	441A136	442A134	443A123	444A127	445A136	446A108	447A130	448A134	449A132	450A122	451A140	452A124	
C.4l	Solar Radio Spectral Obs. (Palehua)	441A136	442A134	443A123	444A117	445A136	446A108	447A130	448A134	449A132	450A122	451A140	452A124	
C.5e	Solar X-ray (SMS/GOES) (graphs)	445B 51	446B 69	447B 34	448B 31	449A 58	450B 54	451B 40	452B 47					
C.6	Sudden Ionospheric Disturbances	442A172	442A128	443A120	444A123	445A130	446A102	448159	449A168	449A128	450A119	451A136	452A119	
D.	GEOMAGNETIC AND MAGNETOSPHERIC PHENOMENA													
D.1a	Geomagnetic Indices Kp, Kn, Ks, Km, Ap, aa, Cp	441A162	443A164	443A144	444A144	445A160	446A135	447A152	448A150	449A159	450A138	451A151	452A152	
D.1ba	27-day Chart of Kp Indices	441A164	442A153	443A146	444A146	445A162	446A137	447A154	448A152	449A161	450A140	451A153	452A154	
D.1c	27-day Chart of C9	451A158	451A158	451A158	451A158	451A158	451A158	451A158	451A158	451A158	451A158			
D.1ca	aa graph 1868 - present													
D.1d	Principal Magnetic Storms	441A166	442A155	443A147	444A147	445A163	447A180	448A164	449A186	449A162	450A141	451A159	452A155	
D.1e	Reduced Magnetograms													
D.1f	Sudden Commencement and Solar Flare Effects	442A180	443A165	443A148	445A180	445A164	446A138	447A155	448A153	449A163	450A142	451A160	452A157	
D.1g	Equatorial Indices Dst	442A182	444A155	445A182	445A183	446A144	447A179	448A163	449A185	450A153	451A175	452A165		
D.1h	Geomagnetic Substorm Log (Boulder)	440A 43	441A 51	442A 46	443A 40	444A 48	445A 4	446A 35	447A 47	448A 45	449A 39	450A 35	451A 52	452A 44
F.	COSMIC RAYS													
F.1a	Cosmic Ray Neutron Counts (Deep River)	442A177	442A151	444A152	447A176	447A176	447A177	447A151	449A180	450A149	450A134	451A151	452A151	
F.1b	Cosmic Ray Neutron Counts (Climax)	442A177	442A151	443A141	445A178	447A176	447A177	447A151	449A180	450A149	451A172			
F.1e	Cosmic Ray Neutron Counts (Alert)	442A177	442A151	444A152	447A176	447A176	447A177	447A151	449A180	450A149	450A134	451A151	452A151	
F.1h	Cosmic Ray Neutron Counts (Thule)	441A159	442A151	443A141	444A141	445A157	446A134	447A151	448A149	449A158	450A134	451A151	452A151	
F.1i	Cosmic Ray Neutron Counts (Kiel)	441A159	442A151	443A141	444A141	445A157	447A177	447A151	448A149	450A149	450A134	451A151	452A151	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	441A159	442A151	443A141	444A141	445A157	447A177	447A151	448A149	450A149	450A134	451A151	452A151	
F.1l	Cosmic Ray Neutron Counts (Huancayo)	442A177	443A163	443A141	445A178	447A176	447A177	447A151	449A180	450A149	451A172			
H.	MISCELLANEOUS													
H.60	IUWDS Alert Decisions	440A 5	441A 5	442A 5	443A 5	444A 5	445A 5	446A 4	447A 4	448A 4	449A 5	450A 5	451A 5	452A 5

Notes:

"441A 58" listed under 1981 Mar means that the sunspot drawings for Mar 1981 were contained in Solar-Geophysical Data Number 441 - Part I, beginning on page 58.

A = Part I, B = Part II.

----- = no data available.
blank = data not yet received.

OCTOBER 1981 DATA

Contents

Page

Active Regions (Data not available at time of publication.)

Synoptic Solar Maps (Data not available at time of publication.)

Solar Flares (Data not available at time of publication.)
H-alpha Solar Flares (Standardized Data)
Daily Flare Indices
Intervals of No Flare Patrol Observation

Solar Radio Emission 4-46
Outstanding Occurrences (Fixed Frequencies)

Energetic Solar Particles and Plasma (Data not available at time of publication.)

Solar X-ray Radiation
SMS-GOES 47-52

Mass Ejections from the Sun 53-54

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
01	200	GORK	44	NS	0358.0E		509.0D		5.0		
	100	GORK	44	NS	0400.0E		3.0D		10.0		
	127	TORN	44	NS	0630.0E	0934.3	416.0D	70.0	3.0		V1
	260	ONDR	44	NS	0756.0E	1356.0	432.0D	101.0	4.0		
	208	VORO	44	NS	2300.0E		240.0D		9.0		
	1415	LEAR	4	S/F	0151.1	0152.1	3.4	08.0			
	2695	LEAR	4	S/F	0151.1	0152.1	2.2	11.0			
	410	LEAR	8	S	0151.3	0151.6	.3	31.0			
	4995	LEAR	8	S	0151.8	0152.1	.3	17.0			
	8800	LEAR	8	S	0152.0	0152.1	.1	11.0			
	3750	TYKW	20	GRF	0310.0	0330.0	50.0	4.0	2.0		
	9400	TYKW	20	GRF	0310.0	0330.0	50.0	4.0	2.0		
	2000	TYKW	21	GRF	0310.0	0330.0	50.0	2.0	1.0		
	410	LEAR	8	S	0310.3	0310.5	.5	27.0			
	245	LEAR	8	S	0310.3	0310.5	.5	48.0			
	1000	TYKW	5	S	0318.0	0318.8	2.0	1.5	0.5		
	2000	TYKW	5	S	0318.0	0319.3	3.0	2.0	0.7		
	2000	TYKW	5	S	0409.0	0411.0	9.0	2.5	1.0		
	3750	TYKW	5	S	0410.0	0411.3	9.0	3.0	1.0		
	3750	TYKW	21	GRF	0410.0	0440.0	100.0	3.0	1.5		
	245	LEAR	8	S	0428.3	0428.3	.3	09.0			
	410	LEAR	8	S	0428.3	0428.3	.3	10.0			
	9100	GORK	23	GRF	0503.0E	1021.6	420.0D	500.0			
	3750	TYKW	20	GRF	0514.0	0516.1	35.0	4.0	1.0		
	9400	TYKW	5	S	0514.0	0516.1	25.0	5.0	1.5		RAIN
	9400	TYKW	45	C	0559.0	0602.0	4.0	26.0	9.0		
	430	KRAK	8	S	0951.7	0952.0	.6	20.0			
	930	BORD	41	F	1024.4	1024.6	.4	40.0	2.0		
	430	KRAK	8	S	1031.2	1031.5	.6	68.0			
	930	BORD	8	S	1035.0	1035.4	.4	22.0	2.0		
	430	KRAK	40	F	1337.2	1342.8	6.5	19.0			
	430	KRAK	40	F	1356.9	1357.9	2.1	39.0			
	2800	OTTA			1615.0		205.0	5.4			
	930	BORD	41	F	1620.6	1620.6	.4	43.0	2.0		
	2800	OTTA	1	S	1737.5	1738.3	1.5	2.4	1.8		
	2800	OTTA	21	GRF	1945.0	2117.0	275.0	18.4	8.2		
	2800	OTTA	4	S/F	1946.0	1959.0	19.0	51.0	10.2		
	2695	PALE	47	GB	1950.1	1953.3	15.0	18.0			
	1415	PALE	47	GB	1950.1	1953.3	15.0	30.0			
	4995	PALE	4	S/F	1952.3	1958.8	13.2	42.0			
	9400	HUAN	21	GRF	1953.0	2004.7	52.3	17.0	11.4		0
	8800	PALE	4	S/F	1954.5	1958.8	14.1	38.0			
	9400	HUAN	2	S/F	1957.3	1958.4	3.8	20.1	14.5		0
	15400	PALE	47	GB	1957.6	1959.3	16.7	31.0			
	3750	TYKW	5	S	2358.5	2359.1	1.5D	4.0	2.0D		
	2695	LEAR	8	S	2358.8	2359.0	.3	05.0			
	8800	LEAR	8	S	2358.8	2359.0	.3	05.0			
	4995	LEAR	8	S	2358.8	2359.0	.7	11.0			
02	245	LEAR	43	NS	0157.1	0214.6	488.9D	16.0			
	1000	TYKW	5	S	0250.9	0251.1	.6	2.0	0.5		
	3750	TYKW	5	S	0251.0	0251.2	.7	1.5	0.5		
	2000	TYKW	8	S	0251.0	0251.1	.4	1.5	0.5		
	3750	TYKW	21	GRF	0330.0	0415.0	110.0	6.0	3.0		
	3750	TYKW	5	S	0331.5	0332.1	1.5	3.0	0.7		
	2000	TYKW	21	GRF	0334.0	0415.0	90.0	3.5	2.0		
	9400	TYKW	21	GRF	0335.0	0350.0	100.0	4.0	2.0		
	2000	TYKW	5	S	0336.0	0340.3	10.0	2.0	0.7		
	1000	TYKW	45	C	0339.0	0342.1	4.0	3.0	1.0		
	3750	TYKW	5	S	0446.0	0448.0	16.0	2.0	1.0		
	9400	TYKW	5	S	0448.0	0449.0	10.0	3.0	1.5		
	3750	TYKW	5	S	0451.0	0451.6	1.5	4.0	1.5		
	2000	TYKW	5	S	0553.5	0554.4	5.0	1.5	0.5		
	6100	KISV	3	S	0727.0	0729.0	4.0	6.0			
	2000	TYKW	45	C	0728.5	0729.1	4.0	3.0	1.0		
	1000	TYKW	5	S	0728.9	0729.1	.5	19.0	7.0		
	3750	TYKW	45	C	0729.0	0730.4	2.0	5.0	1.5		
	9400	TYKW	5	S	0729.0	0730.5	2.0	5.0	1.5		
	1000	TYKW	5	S	0731.4	0731.7	1.0	4.0	1.0		
	430	KRAK	8	S	0840.8	0840.9	.2	34.0			
	260	ONDR	2	S/F	0905.6	0906.8	2.0	10.0	1.0		
	113	POTS	8	S	0923.3	0923.4	.2	110.0	35.0		III
	430	KRAK	8	S	1037.6	1037.6	.1	15.0			
	430	KRAK	8	S	1228.9	1228.9	.2	15.0			
	2800	OTTA	21	GRF	1245.0	1353.0	190.0	11.0	5.5		
	2800	OTTA	1	S	1259.0	1301.5	9.0	5.6	2.0		
	430	KRAK	8	S	1352.7	1352.8	.2	73.0			
	9400	HUAN	21	GRF	1614.7	1637.6	43.5	6.5	3.4		0
	2800	OTTA	27A	RF	1615.0		190.0	4.8	4.4		
	2800	OTTA	24	R	1615.0	1631.0	16.0	4.8	2.4		
	2800	OTTA	24P	R	1631.0		159.0	4.8			
	2800	OTTA	1	S	1632.0	1633.7	2.2	2.4	1.2		
	9400	HUAN	1	S	1634.7	1635.0	1.3	8.1	5.2		L
	2800	OTTA	26	FAL	1910.0	1925.0	15.0	4.8	2.4		
	2800	OTTA	20	GRF	1940.0	2020.0	100.0	3.6	1.8		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
02	245	LEAR	8	S	2238.8	2238.8	1.2	13.0			
	410	LEAR	8	S	2238.8	2238.8	1.2	09.0			
	9400	TYKW	5	S	2303.7	2303.8	.5	13.0	4.0		
	1000	TYKW	5	S	2311.9	2312.0	.5	4.0	1.5		
	245	LEAR	8	S	2353.1	2353.6	.7	18.0			
	200	HIRA	8	S	2353.2	2353.2	.3	80.0			0
	2695	LEAR	8	S	2358.8	2359.0	.3	05.0			
	4995	LEAR	8	S	2358.8	2359.0	.7	11.0			
	8800	LEAR	8	S	2358.8	2359.0	.3	05.0			
03	260	ONDR	43	NS	0923.0	1216.4	344.0D	37.0			
	245	LEAR	43	NS	2219.0	0356.3	707.0	410.0			
	208	VORO	44	NS	2300.0E		240.0D		8.0		
	2000	TYKW	20	GRF	0040.0	0050.0	60.0	1.5	0.7		
	3750	TYKW	20	GRF	0040.0	0056.0	60.0	3.5	2.0		
	9400	TYKW	20	GRF	0040.0	0100.0	60.0	3.0	1.5		
	1415	LEAR	8	S	0041.5	0041.6	.3	18.0			
	606	LEAR	4	S/F	0056.8	0056.8	126.4	17.0			
	245	LEAR	8	S	0108.3	0108.5	.7	11.0			
	9400	TYKW	20	GRF	0215.0	0235.0	70.0	4.0	2.0		
	2000	TYKW	20	GRF	0215.0	0240.0	70.0	2.0	1.0		
	3750	TYKW	20	GRF	0215.0	0240.0	70.0	4.0	2.0		
	1000	TYKW	5	S	0225.0	0225.3	1.5	1.5	0.5		
	2000	TYKW	5	S	0509.5	0510.6	2.0	8.0	3.0		
	3750	TYKW	5	S	0510.0	0510.6	4.0	32.0	6.0		
	9400	TYKW	5	S	0510.0	0510.6	2.0	11.0	4.0		
	9100	GORK	1	S	0510.0	0510.5	3.8	15.0	8.0		
	4995	ATHN	8	S	0510.0	0510.6	1.0	41.0			
	8800	ATHN	8	S	0510.0	0510.6	1.0	10.0			
	4995	LEAR	8	S	0510.1	0510.5	.5	26.0			
	2695	LEAR	8	S	0510.1	0510.5	.5	21.0			
	8800	LEAR	8	S	0510.1	0510.5	.5	15.0			
	245	LEAR	8	S	0541.6	0541.6	.2	230.0			
	410	LEAR	8	S	0541.6	0541.6	.2	11.0			
	606	LEAR	8	S	0541.6	0541.6	.2	18.0			
	536	ONDR	42	SER	0751.0	0751.8	2.5	56.0			
	260	ONDR	42	SER	0751.2	0753.0	4.5	9.0			
	127	TORN	42	SER	0846.5	0848.3	3.5D	20.0			
	430	KRAK	8	S	1006.1	1006.5	.6	24.0			
	810	KRAK	8	S	1025.6	1025.7	.2	17.0			
	29	UPIC	45	C	1225.0	1226.4	1.6				
	33	UPIC	45	C	1225.6	1226.4	1.0				
	2800	OTTA	20	GRF	1245.0	1303.0	70.0	5.8	3.0		
	430	KRAK	8	S	1253.5	1253.5	.2	46.0			
	2800	OTTA	8	S	1552.0	1552.3	.8	2.4	1.2		
	2695	PENT	1	S	2005.0	2006.3	3.0	6.8	2.3		
04	260	ONDR	44	NS	0755.0E	0853.6	447.0D	84.0			
	245	LEAR	43	NS	2323.5	2353.0	643.5	18.0			
	200	TYKW	45	C	0058.0	0059.5	6.0	18.0	5.0		
	1000	TYKW	45	C	0058.0	0100.1	6.0	12.0	3.0		
	3750	TYKW	45	C	0058.0	0101.7	20.0	6.0	2.0		
	200	HIRA	42	SER	0059.0	0100.6	2.3	66.0			0
	2000	TYKW	29	PBI	0104.0		15.0	2.0	0.7		
	2000	TYKW	5	S	0331.0	0331.6	7.0	4.0	1.0		
	1000	TYKW	5	S	0331.0	0331.6	2.0	3.0	1.0		
	606	LEAR	8	S	0811.1	0811.1	.4	46.0			
	33	UPIC	4	S/F	0851.0	0851.2	.5				
	29	UPIC	3	S	0851.0	0851.3	.6				
	430	KRAK	42	SER	0852.9	0853.3	81.0	160.0			
	430	KRAK			0852.9	1012.8		90.0			
	245	LEAR	8	S	0853.5	0853.6	.1	180.0			
	410	LEAR	8	S	0853.5	0853.8	.5	07.0			
	410	LEAR	8	S	0856.5	0856.8	.5	44.0			
	245	LEAR	8	S	0856.8	0857.0	.3	17.0			
	430	KRAK	8	S	1111.6	1111.7	.2	15.0			
	3000	POTS	40	F	1226.5	1228.0	3.5	15.0			
	1470	POTS	40	F	1227.0	1229.8	5.0	5.7			
	430	KRAK	4	S/F	1228.0	1230.1	3.1	130.0	7.0		
	810	KRAK	8	S	1257.7	1257.8	.2	20.0			
	113	POTS	4	S/F	1348.0	1348.4	1.2	150.0	20.0		III
	127	TORN	45	C	1356.0	1357.5	3.3	80.0	40.0		
	2800	OTTA	20	GRF	1740.0	1825.0	110.0	5.0	2.5		
	208	VORO	4	S/F	2312.0	2315.0	4.0	100.0D			
	245	LEAR	4	S/F	2312.3	2314.3	2.5	170.0			
	410	LEAR	8	S	2312.5	2312.6	.1	20.0			
	1000	TYKW	42	SER	2320.5	2320.7	2.5	7.0	1.0		
05	1000	TYKW	5	S	0151.0	0152.2	3.0	5.0	2.0		
	2000	TYKW	5	S	0151.0	0152.2	3.0	7.0	2.5		
	3750	TYKW	5	S	0151.0	0152.2	3.0	12.0	4.0		
	2695	LEAR	4	S/F	0151.1	0152.1	2.2	11.0			
	1415	LEAR	4	S/F	0151.1	0152.1	3.4	08.0			
	410	LEAR	8	S	0151.3	0151.6	.3	31.0			
	4995	LEAR	8	S	0151.8	0152.1	.3	17.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
05	9400	TYKW	5	S	0152.0	0152.2	1.0	6.0	2.0		RAIN
	8800	LEAR	8	S	0152.0	0152.1	.1	11.0			
	3750	TYKW	30	PBI	0154.0		35.0	3.0	1.5		
	1000	TYKW	30	PBI	0154.0		35.0	2.0	1.0		
	2000	TYKW	30	PBI	0154.0		35.0	1.5	0.7		
	2000	TYKW	5	S	0155.0	0156.2	2.0	1.5	0.7		
	3750	TYKW	5	S	0155.0	0156.3	3.0	3.0	1.0		
	1000	TYKW	5	S	0155.7	0156.3	2.0	5.0	1.5		
	410	LEAR	8	S	0238.8	0239.1	.5	38.0			
	410	LEAR	8	S	0244.0	0244.5	.8	48.0			
	606	LEAR	47	GB	0246.6	0246.8	.5	750.0			
	410	LEAR	8	S	0246.8	0247.0	.3	36.0			
	2000	TYKW	5	S	0302.5	0303.1	1.5	3.5	1.5		
	3750	TYKW	5	S	0303.0E	0303.0U	.5D	3.0D	1.0D		
	3750	TYKW	5	S	0550.0	0552.0	15.0	2.0	1.0		
	2000	TYKW	5	S	0550.0	0552.0	15.0	2.0	1.0		
	410	LEAR	8	S	0621.1	0621.3	.9	54.0			
	260	ONDR	45	C	0751.2	0751.5	4.0	13.0	3.0		
	410	LEAR	4	S/F	0752.6	0754.0	2.4	13.0			
	606	LEAR	8	S	0753.8	0754.0	.3	11.0			
	245	LEAR	8	S	0753.8	0754.5	1.0	19.0			
	430	KRAK	8	S	0817.6	0817.6	.2	15.0			
	410	LEAR	8	S	0817.6	0817.8	.4	17.0			
	260	ONDR	8	S	0824.0	0824.0	.2	13.0			
	430	KRAK	8	S	0854.5	0854.6	.2	20.0			
	430	KRAK	8	S	0912.6	0912.8	.9	180.0			
	606	LEAR	8	S	0912.8	0913.1	.5	09.0			
	410	LEAR	8	S	0913.0	0913.1	.3	98.0			
	810	KRAK	8	S	0922.8	0922.8	.2	19.0			
	430	KRAK	8	S	0922.8	0922.8	.2	16.0			
	810	KRAK	8	S	0924.8	0924.8	.2	37.0			
	430	KRAK	8	S	0924.8	0924.8	.2	15.0			
	650	GORK	41	F	0925.7	0926.1	2.7	21.0			
	950	GORK	41	F	0926.0	0926.2	2.2	23.0			
	950	GORK			0926.0	0928.0		5.0			
	260	ONDR	45	C	0931.6	0932.8	3.0	13.0	2.0		
	810	KRAK	8	S	0933.1	0933.2	.2	15.0			
	430	KRAK	8	S	0933.1	0933.2	.2	11.0			
	2800	OTTA	21	GRF	1417.0	1425.0	20.0	6.8	3.4		
	2650	DWIN	1	S	1419.0	1420.0	2.0	15.0	5.0		
	2800	OTTA	1	S	1419.5	1419.9	2.0	6.8	2.4		
	2800	OTTA	21	GRF	1445.0	1630.0	310.0	7.6	4.0		
	2800	OTTA	8	S	1522.7	1523.0	.7	9.0	4.5		
	2650	DWIN	1	S	1523.0	1523.0	1.0	18.0	5.0		
	2800	OTTA	2	S/F	1900.8	1902.0	2.0	2.8			
06	245	LEAR	43	NS	0432.5	0635.5	334.5D	28.0			
	260	ONDR	44	NS	0800.0E	1442.4	426.0D	49.0			
	245	LEAR	43	NS	2216.0	0225.8	711.0	119.0			
	245	LEAR	8	S	0020.0	0020.1	.1	13.0			
	3750	TYKW	20	GRF	0039.0	0041.5	40.0	3.5	1.5		
	2000	TYKW	20	GRF	0040.0	0041.5	35.0	3.0	1.0		
	1000	TYKW	45	C	0040.6	0040.8	1.5	7.0	1.5		
	2000	TYKW	20	GRF	0135.0U	0145.0U	60.0U	2.0U	1.0U		INTERFERENCE
	3750	TYKW	20	GRF	0135.0	0157.0	60.0	4.0	2.0		
	1000	TYKW	20	GRF	0320.0	0410.0	200.0	3.0	1.5		
	3750	TYKW	21	GRF	0320.0	0415.0	200.0U	6.0	3.0		INTERFERENCE
	2000	TYKW	21	GRF	0320.0	0415.0	200.0	3.0	1.5		
	245	LEAR	8	S	0351.5	0352.6	1.3	11.0			
	245	LEAR	8	S	0414.1	0414.5	.7	28.0			
	2000	TYKW	21	GRF	0500.0	0520.0	90.0	2.0	1.0		
	3750	TYKW	21	GRF	0500.0	0530.0	100.0U	4.0	2.0		
	2950	GORK	21	GRF	0539.0	0545.0	57.0	3.0	1.5		
	2695	LEAR	8	S	0544.0	0544.0	.1	21.0			
	3200	BERN	22	GRF	0549.1	0601.1	38.0	41.0			ONLY PAPER REC
	3750	TYKW	5	S	0550.0	0600.0U	35.0U	13.0D	3.0D		
	5200	BERN	22	GRF	0553.5	0601.1	37.0	60.0			ONLY PAPER REC
	4995	LEAR	4	S/F	0557.8	0601.3	5.5	52.0			
	9100	GORK	22	GRF	0558.0	0601.4	20.7	23.0			
	2695	LEAR	4	S/F	0558.1	0601.3	4.7	30.0			
	2000	TYKW	45	C	0559.0	0601.4	5.0	72.0	4.0		
	6100	KISV	4	S/F	0559.0	0601.5	6.0	25.0			
	2950	GORK	45	C	0559.0	0600.0	4.0	8.4			
	8800	LEAR	4	S/F	0559.0	0601.3	4.1	28.0			
	2950	GORK			0559.0	0601.4		23.0			
	3100	CRIM	42	SER	0559.5	0600.0	1.0	8.0			
	3100	CRIM			0559.5	0601.2		28.0	9.0		
	2695	ATHN	8	S	0600.6	0601.5	2.0D	19.0			
	8800	ATHN	4	S/F	0600.6	0601.6	2.5	16.0			
	15400	LEAR	4	S/F	0600.6	0601.8	2.2	19.0			
	3000	IZMI	5	S	0601.0	0601.5	.8	39.0	18.0		
	4995	ATHN	8	S	0601.0	0601.5	1.3	31.0			
	606	LEAR	8	S	0601.1	0601.3	.7	20.0			
	1415	LEAR	8	S	0601.1	0602.1	1.0	28.0			
	410	LEAR	8	S	0601.3	0601.5	.5	10.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
06	9400	TYKW	29	PBI	0603.0		20.0	10.0	5.0		
	410	LEAR	4	S/F	0646.6	0648.6	2.2	17.0			
	245	LEAR	8	S	0648.1	0649.0	.9	06.0			
	606	LEAR	8	S	0648.8	0648.8	.2	10.0			
	410	LEAR	4	S/F	0658.0	0658.0	2.5	21.0			
	606	LEAR	4	S/F	0658.0	0700.1	2.5	32.0			
	2950	GORK	20	GRF	0705.0	0730.0	166.0	7.8			
	430	KRAK	41	F	0838.4	0840.7	8.0	42.0			
	606	LEAR	8	S	0839.8	0840.6	1.0	17.0			
	410	LEAR	8	S	0840.0	0840.1	.6	18.0			
	410	LEAR	8	S	0843.3	0843.5	1.8	11.0			
	9100	GORK	22	GRF	0852.8	0858.8	112.0D	12.0			
	6100	KISV	3	S	0858.5	0858.8	1.0	4.0			
	430	KRAK	8	S	1054.3	1054.3	.2	49.0			
	2650	DWIN	1	S	1100.0	1102.0	2.0	19.0	5.0		
	5200	BERN	4	S/F	1100.5	1101.2	6.0	30.0			ONLY PAPER REC
	3200	BERN	4	S/F	1100.5	1101.2	5.0	16.0			ONLY PAPER REC
	3100	CRIM	1	S	1101.0	1101.4	2.0	13.0	4.0		
	1470	POTS	3	S	1101.0	1101.5	2.0	6.0			
	9500	POTS	1	S	1101.0	1101.5	1.0	9.0			
	3000	POTS	3	S	1101.0	1101.5	2.0	15.0			
	8800	ATHN	8	S	1131.5	1131.6	.1	75.0			
	930	BORD	8	S	1133.9	1133.9	.1	18.0	1.0		
	430	KRAK	8	S	1214.5	1214.5	.2	17.0			
	430	KRAK	8	S	1259.0	1259.0	.2	25.0			
	2800	OTTA	20	GRF	1620.0	1623.0	35.0	2.8	1.4		
	2800	OTTA	20	GRF	1840.0	2007.0	140.0	5.4	2.8		
	2695	LEAR	8	S	2330.6E	2330.6	.5D	37.0			
	410	LEAR	8	S	2330.6E	2330.6	.5D	13.0			
	8800	LEAR	8	S	2330.6E	2330.6	.5D	52.0			
	15400	LEAR	8	S	2330.6E	2330.6	.5D	40.0			
	606	LEAR	8	S	2330.6E	2330.6	.5D	29.0			
	1415	LEAR	8	S	2330.6E	2330.6	1.2D	33.0			
	4995	LEAR	8	S	2330.6E	2330.6	.5D	43.0			
07	208	VORO	43	NS	0110.0		170.0D		10.0		
	410	LEAR	43	NS	0449.6	0715.1	317.4D	23.0			
	127	TORN	43	NS	0630.0	0937.0	360.0D	10.0			VO,DISTURBED
	260	ONDR	44	NS	0800.0E	1035.0	454.0D	86.0	3.0		
	200	HIRA	44	NS	2037.0E	0319.0	470.0D	18.0	3.0		WR
	245	LEAR	43	NS	2215.0	2228.8	713.0	240.0			
	208	VORO	44	NS	2300.0E		240.0D		12.0		
	245	LEAR	8	S	0120.5	0120.8	1.0	92.0			
	606	LEAR	8	S	0120.6	0120.8	.2	09.0			
	410	LEAR	8	S	0120.6	0120.8	.7	94.0			
	1000	TYKW	5	S	0120.8	0121.3	1.5	19.0	4.0		
	2000	TYKW	5	S	0121.0	0121.3	1.0	1.5	0.5		
	9400	TYKW	20	GRF	0310.0	0315.0	50.0	4.0	2.0		
	3750	TYKW	20	GRF	0310.0	0315.0	50.0	3.0	1.5		
	3750	TYKW	21	GRF	0405.0	0414.0	40.0	2.0	1.0		
	2000	TYKW	5	S	0420.0	0421.5	20.0	2.0	1.0		
	3750	TYKW	5	S	0420.0	0421.8	10.0	3.0	1.0		
	9400	TYKW	5	S	0421.0	0421.7	2.0	11.0	3.0		
	1000	TYKW	8	S	0421.5	0421.6	.2	8.0	1.5		
	1000	TYKW	42	SER	0446.8	0447.1	4.5	39.0	1.0		
	2000	TYKW	45	C	0447.0	0449.7	5.0	7.0	1.5		
	3750	TYKW	45	C	0447.0	0449.7	5.0	12.0	5.0		
	9400	TYKW	20	GRF	0447.0	0451.0	35.0	8.0	3.5		
	4995	LEAR	4	S/F	0448.1	0449.8	4.5	11.0			
	2950	GORK	20	GRF	0448.5	0449.6	12.4	12.0			
	2695	LEAR	8	S	0448.6	0449.0	1.5	10.0			
	8800	LEAR	4	S/F	0448.8	0450.3	3.5	09.0			
	606	LEAR	8	S	0449.3	0449.3	1.3	11.0			
	410	LEAR	8	S	0449.8	0450.0	.3	08.0			
	2000	TYKW	29	PBI	0452.0		30.0	2.5	1.0		
	3750	TYKW	29	PBI	0452.0		30.0	6.0	2.5		
	1000	TYKW	8	S	0455.4	0455.6	.4	8.0	3.0		
	3750	TYKW	20	GRF	0523.0	0526.0	35.0	2.0	1.0		
	9400	TYKW	20	GRF	0525.0	0529.0	30.0	3.0	1.5		
	650	GORK	4	S/F	0615.9	0616.5	1.2	127.0			
	950	GORK	4	S/F	0616.1	0616.4	.8	119.0			
	6100	KISV	8	S	0618.0	0618.2	.5	5.0			
	204	IZMI	4	S/F	0723.0	0725.0	3.0	70.0	33.0		
	9100	GORK	22	GRF	0819.8	1037.1	160.0D	14.0			
	2950	GORK	21	GRF	0829.0	0900.0	109.0	30.0	15.0		
	33	UPIC	42	SER	0859.8		96.4				
	29	UPIC	42	SER	0900.0	0925.7	96.0				
	245	LEAR	4	S/F	0923.1	0925.3	3.2	18.0			
	2695	LEAR	4	S/F	0924.3	0925.3	5.5	19.0			
	1470	POTS	3	S	0924.5	0925.2	4.0	9.0			
	5200	BERN	1	S	0924.5	0925.2	2.5	9.0			ONLY PAPER REC
	3200	BERN	1	S	0924.5	0925.2	3.0	11.0			ONLY PAPER REC
	1415	LEAR	4	S/F	0924.6	0925.1	2.5	16.0			
	950	GORK	1	S	0924.6	0925.1	2.4	5.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
07	2950	GORK	1	S	0924.6	0925.6	2.6	11.0	5.5		
	650	GORK	1	S	0924.7	0925.1	1.1	1.5			
	113	POTS	4	S/F	0924.8	0925.1	.6	125.0	25.0		III
	2695	LEAR	8	S	0925.5	0926.0	1.0D	09.0			
	15400	LEAR	8	S	0925.5	0926.0	1.0	09.0			
	430	KRAK	8	S	0926.8	0926.8	.2	49.0			
	810	KRAK	8	S	0926.8	0926.8	.2	11.0			
	2650	DWIN	1	S	0930.0	0930.0	2.0	12.0	5.0		
	127	TORN	4	S/F	1005.4	1006.0	1.8	70.0	30.0		
	204	IZMI	5	S	1005.5	1006.0	1.0	36.0	20.0		
	430	KRAK	41	F	1011.7	1015.2	6.5	19.0			
	127	TORN	42	SER	1018.3	1034.2	17.0	940.0			
	113	POTS	42	SER	1018.5	1034.3	27.0	350.0	3.0		III
	204	IZMI	7	C	1025.0	1026.8	2.3	80.0	36.0		
	2950	GORK	1	S	1025.5	1026.6	3.8	9.8	4.5		
	1470	POTS	3	S	1025.5	1026.7	3.5	7.5			
	950	GORK	2	S/F	1025.6	1026.6	2.1	5.0			
	2650	DWIN	1	S	1026.0	1027.0	3.0	10.0	5.0		
	3200	BERN	1	S	1026.1	1027.5	3.5	11.0			ONLY PAPER REC
	650	GORK	1	S	1026.2	1026.5	1.4	2.0			
	5200	BERN	1	S	1027.0	1027.5	2.5	13.0			ONLY PAPER REC
	430	KRAK	4	S/F	1033.8	1036.6	5.5	86.0	3.0		
	5200	BERN	20	GRF	1033.8	1037.0	7.0	9.0			ONLY PAPER REC
	204	IZMI	7	C	1034.0	1036.7	7.0	77.0	33.0		
	430	KRAK	41	F	1049.0	1050.0	9.5	20.0			
	2800	OTTA	21	GRF	1233.0	1245.0	27.0	3.8	2.0		
	3200	BERN	45	C	1233.7	1234.8	3.0	8.0			ONLY PAPER REC
	5200	BERN	45	C	1233.7	1234.8	5.0	18.0			ONLY PAPER REC
	2800	OTTA	2	S/F	1233.9	1235.9	3.0	5.0	3.8		
	1470	POTS	42	SER	1324.0	1329.2	6.5	8.0			
	3200	BERN	22	GRF	1324.2	1329.1	40.0	15.0			ONLY PAPER REC
	2800	OTTA	21	GRF	1325.0	1350.0	150.0	8.0	4.0		
	1415	SGMR	4	S/F	1325.8	1329.5	5.5D	18.0			
	9500	POTS	20	GRF	1327.0	1350.0	53.0	16.0			
	5200	BERN	22	GRF	1328.3	1349.5	42.0	18.0			ONLY PAPER REC
	33	UPIC	46	C	1328.5	1330.0	2.3				
	29	UPIC	46	C	1328.6	1329.5	2.0				
	9400	HUAN	20	GRF	1328.6	1340.5	98.1	17.0	8.8		0
	2800	OTTA	1	S	1329.0	1329.4	1.0	5.0	2.0		
	113	POTS	4	S/F	1329.3	1329.7	.8	100.0	25.0		III
	4995	SGMR	4	S/F	1335.3	1336.6	10.7D	10.0			
	8800	SGMR	4	S/F	1335.3	1340.3	12.7	11.0			
	2695	SGMR	4	S/F	1335.5	1338.6	5.8D	04.0			
	2800	OTTA	1	S	1349.0	1349.8	2.0	2.0	1.0		
	2800	OTTA	21	GRF	1625.0	1815.0	230.0	7.2	3.8		
	9400	HUAN	21	GRF	1632.2	1641.0	16.5	5.1	4.8		0
	4995	SGMR	4	S/F	1632.6	1636.1	8.4D	35.0			
	8800	SGMR	4	S/F	1632.6	1636.1	8.4D	65.0			
	2800	OTTA	1	S	1633.3	1636.0	6.0	7.8	2.6		
	2695	SGMR	4	S/F	1633.8	1635.1	5.3D	09.0			
	15400	SGMR	4	S/F	1634.5	1635.8	6.3	23.0			
	9400	HUAN	3	S	1635.0	1636.2	15.3	47.6	21.1		L
	2800	OTTA	1	S	1714.5	1715.4	2.5	4.6	2.0		
	9400	HUAN	20	GRF	1802.8	1810.0	20.2	8.5	6.8		0
	2800	OTTA	1	S	1943.0	1943.2	1.0	3.8	1.9		
	100	HIRA	46	C	2113.5	2114.0	.9	150.0	60.0		WR
	2695	PENT	240	R	2155.0	2205.0	10.0	3.6	1.8		
	410	PALE	8	S	2205.5	2205.6	.3	130.0			
	606	PALE	8	S	2205.5	2205.6	.3	490.0			
	2000	TYKW	28	PRE	2230.0	2243.3	20.0	25.0	5.0		
	1000	TYKW	42	SER	2240.0	2243.2	4.0	5.0	0.4		
	2695	LEAR	4	S/F	2241.8	2243.1	4.0	34.0			
	2695	PENT	28	PRE	2242.0	2243.3	8.0	28.0	7.0		
	3750	TYKW	28	PRE	2242.0	2243.5	8.0	9.0	3.0		
	1415	LEAR	8	S	2242.0	2242.3	1.8	37.0			
	245	LEAR	4	S/F	2242.3	2244.1	2.2	19.0			
	1415	LEAR	49	GB	2249.1	2249.6	15.7	24.0			
	2000	TYKW	47	GB	2250.0	2257.4	39.0	770.0	275.0		
	9400	TYKW	47	GB	2250.0	2304.2	40.0	9560.0	3200.0		RAIN
	3750	TYKW	47	GB	2250.0	2310.9	39.0	2900.0	900.0		
	2695	PENT	47	GB	2250.0	2311.0	37.0	1730.0	598.0		
	2000	TYKW			2250.0	2311.2		63.0			
	2695	LEAR	49	GB	2250.6	2251.6	14.2	18.0			
	1000	TYKW	47	GB	2251.0	2254.0	38.5	1450.0	200.0		
	1415	MANI	47	GB	2252.0	2257.9	86.0	716.1	238.7		
	606	MANI	47	GB	2252.0	2305.0	80.2	538.2	179.4		
	8800	MANI	47	GB	2252.3	2305.6	85.7	1780.0D	593.3D		
	4995	MANI	47	GB	2252.3	2306.7	85.7	3850.0D	1283.3D		
	127	TORN	49	GB	2252.4	2302.0	34.6D	12700.0			0
	1415	PALE	49	GB	2252.6	2257.3	85.0	980.0			
	2695	PALE	49	GB	2252.6	2257.3	84.5	8300.0			
	4995	LEAR	49	GB	2252.6	2257.3	12.2	610.0			
	8800	PALE	49	GB	2252.6	2257.6	84.9	2000.0			
	15400	LEAR	49	GB	2252.8	2257.5	12.0	4600.0			
	15400	PALE	49	GB	2252.8	2257.6	67.3	6400.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
07	8800	LEAR	49	GB	2252.8	2257.6	12.0	1800.0			
	4995	PALE	49	GB	2252.8	2257.6	84.7	540.0			
	2695	MANI	47	GB	2252.8	2311.5	86.2	1700.0D	566.7D		
	606	LEAR	49	GB	2253.8	2257.6	11.0	690.0			
	606	PALE	49	GB	2253.8	2257.6	85.7	780.0			
	500	HIRA	48	C	2254.3	2255.6	48.0	3300.0	60.0		WR
	35000	NAGO	5	S	2255.0	2301.0	11.0	500.0U			
	410	LEAR	49	GB	2255.1	2255.8	9.7	1000.0			
	200	HIRA			2255.1	2255.8		220.0			O
	200	HIRA	48	C	2255.1	2257.6	50.0	2200.0	67.0		O
	200	HIRA			2255.1	2301.1		1300.0			O
	100	HIRA	48	C	2255.2	2257.6	55.0	62000.0	1850.0		
	100	HIRA			2255.2	2301.3		49000.0			WR
	100	HIRA			2255.2	2307.3		38000.0			WR
	245	LEAR	49	GB	2255.3	2255.8	9.5	720.0			
	410	PALE	49	GB	2255.6	2255.8	78.0	1300.0			
	208	VORO	46	C	2304.0	2306.0	50.0	100.0D			
	208	VORO			2304.0	2309.0U		100.0D			
	606	LEAR	49	GB	2304.6	2304.8	11.7	1000.0			
	410	LEAR	49	GB	2304.8	2304.8	11.7	290.0			
	245	LEAR	49	GB	2304.8	2305.1	11.7	1100.0			
	8800	LEAR	49	GB	2304.8	2305.6	11.7	7400.0			
	4995	LEAR	49	GB	2304.8	2306.5	11.7	4800.0			
	2695	LEAR	49	GB	2304.8	2306.5	11.7	1100.0			
	1415	LEAR	49	GB	2304.8	2306.5	11.7	600.0			
	15400	LEAR	49	GB	2304.8	2306.6	11.7	6300.0			
	410	LEAR	4	S/F	2316.5	0000.8	46.6	200.0			
	606	LEAR	4	S/F	2316.5	0000.8	54.1	1399.0			
	15400	LEAR	47	GB	2316.5	2322.1	71.5	9900.0			
	245	LEAR	47	GB	2316.5	2325.1	8.6	1100.0			
	8800	LEAR	47	GB	2316.5	2325.6	61.1	7400.0			
	4995	LEAR	47	GB	2316.5	2326.8	71.5	4900.0			
	2695	LEAR	47	GB	2316.5	2330.8	71.5	1399.0			
	1415	LEAR	47	GB	2316.5	2331.6	71.3	410.0			
	2695	PENT	30	PBI	2327.0	2327.0	70.0D	55.0			
	17000	NOBE	29	PBI	2327.0	2327.0	40.0	160.0			O
	2000	TYKW	30	PBI	2329.0		310.0	39.0	7.0		
	3750	TYKW	30	PBI	2329.0		310.0	70.0	14.0		
	3750	TYKW	5	S	2329.0	2330.8	5.0	16.0	7.0		
	2000	TYKW	45	C	2329.0	2355.3	40.0	77.0	20.0		
	2695	PENT	40	F	2329.0	2355.5	50.0	91.0			
	1000	TYKW	30	PBI	2329.5		60.0	20.0	5.0		
	1000	TYKW	47	GB	2329.5	2331.3	16.0	560.0	50.0		
	9400	TYKW	30	PBI	2330.0		300.0	110.0U	25.0U		
	3750	TYKW	45	C	2334.0	2335.2	4.5	8.0	4.0		
	9400	TYKW	45	C	2338.0U	2354.9U	20.0U	25.0U	9.0U		
	3750	TYKW	45	C	2338.5	2355.0	30.0	94.0	25.0		
	1000	TYKW	45	C	2345.5	2348.2	23.5	56.0	6.0		
	500	HIRA	45	C	2346.3	2347.6	2.6	30.0	20.0		WR
	500	HIRA	45	C	2359.7	0000.6	4.5	500.0	150.0		WL
08	260	ONDR	44	NS	0757.0E	0853.5	434.0D	25.0			
	29	UPIC	43	NS	0806.6	1144.0	273.7D				
	33	UPIC	43	NS	0806.7	1152.2	273.7D				
	245	LEAR	43	NS	2214.0	0409.0	714.0	30.0			
	1000	TYKW	45	C	0009.0	0014.9	16.0	14.0	4.0		
	2000	TYKW	45	C	0009.0	0015.3	11.0	53.0	23.0		
	3750	TYKW	45	C	0009.0	0015.4	11.0	73.0	27.0		
	9400	TYKW	45	C	0010.0U	0015.3	12.0D	31.0	10.0		
	2000	TYKW	29	PBI	0020.0		8.0	5.0	2.0		
	3750	TYKW	29	PBI	0020.0		10.0	8.0	2.5		
	9400	TYKW	5	S	0023.0	0025.0	5.0	3.0	1.5		
	2000	TYKW	28	PRE	0035.0	0037.0	7.0	2.0	1.0		
	3750	TYKW	5	S	0035.5	0036.2	2.5	2.0	1.0		
	1000	TYKW	45	C	0036.0	0039.9	6.0	11.0	2.5		
	3750	TYKW	5	S	0042.0	0047.3	14.0	17.0	7.0		
	2000	TYKW	5	S	0042.0	0048.5	14.0	15.0	6.0		
	9400	TYKW	5	S	0043.0U	0047.0	10.0D	8.0	3.0		
	1000	TYKW	5	S	0043.0	0047.5	12.0	5.0	2.0		
	606	PALE	8	S	0057.6	0057.8	.2	16.0			
	3750	TYKW	28	PRE	0058.0	0100.3	7.0	4.0	2.0		
	2000	TYKW	28	PRE	0059.0	0100.4	4.0	4.0	2.0		
	1000	TYKW	45	C	0059.0	0108.7	22.0	9.0	3.0		
	2000	TYKW	5	S	0103.0	0108.8	12.0	25.0	13.0		
	1415	PALE	4	S/F	0104.8	0107.6	7.3	19.0			
	3750	TYKW	5	S	0105.0	0108.7	10.0	20.0	10.0		
	9400	TYKW	5	S	0105.0U	0109.0	10.0U	5.0	2.5		
	2695	LEAR	4	S/F	0105.6	0108.8	5.5	32.0			
	1415	LEAR	4	S/F	0106.1	0106.6	107.8	11.0			
	4995	LEAR	4	S/F	0107.1	0108.8	4.5	13.0			
	3750	TYKW	29	PBI	0115.0		6.0	2.0	1.0		
	2000	TYKW	29	PBI	0115.0		6.0	4.5	2.0		
	3750	TYKW	5	S	0127.0	0132.9	13.0	63.0	28.0		
	8800	MANI	3	S	0128.8	0132.6	8.5	81.2	27.1		
	9400	TYKW	5	S	0129.0	0132.0	9.0	35.0	18.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
08	1000	TYKW	5	S	0129.0	0132.4	9.0	15.0	8.0		
	2000	TYKW	5	S	0129.0	0133.0	11.0	56.0	28.0		
	1415	PALE	4	S/F	0129.5	0132.8	9.5	34.0			
	4995	MANI	3	S	0129.8	0132.0	8.2	75.8	25.3		
	2695	LEAR	4	S/F	0129.8	0133.0	7.8	70.0			
	2695	MANI	3	S	0129.8	0133.3	9.2	90.0	30.0		
	606	MANI	1	S	0130.0	0132.0	8.0	5.9	2.0		
	4995	LEAR	4	S/F	0130.0	0132.3	6.1	49.0			
	1415	MANI	3	S	0130.0	0134.0	10.0	36.9	12.3		
	8800	LEAR	4	S/F	0130.1	0132.0	4.7	38.0			
	1415	LEAR	4	S/F	0130.1	0132.1	6.5	42.0			
	15400	LEAR	8	S	0130.8	0131.5	1.3	17.0			
	1000	TYKW	30	PBI	0138.0		20.0	5.0	2.0		
	9400	TYKW	29	PBI	0138.0		20.0	5.0	3.0		
	1000	TYKW	45	C	0138.5	0138.7	2.5	5.0	1.5		
	2000	TYKW	30	PBI	0140.0		25.0	8.0	3.0		
	3750	TYKW	30	PBI	0140.0		20.0	8.0	3.5		
	2000	TYKW	5	S	0140.6	0140.7	.5	8.0	3.0		
	3750	TYKW	5	S	0142.0	0142.7	2.0	2.5	1.0		
	3750	TYKW	5	S	0207.0	0207.7	2.0	1.5	0.7		
	3750	TYKW	5	S	0210.0	0215.0	9.0	4.0	2.0		
	2000	TYKW	21	GRF	0210.0	0330.0	130.0	8.0	3.0		
	100	HIRA	46	C	0226.5	0227.3	3.0	9000.0	350.0		0
	9400	TYKW	5	S	0231.0	0232.0	6.0	14.0	3.5		
	3750	TYKW	5	S	0231.0	0232.2	2.0	11.0	5.0		
	3750	TYKW	21	GRF	0231.0	0330.0	110.0	7.0	4.0		
	2000	TYKW	5	S	0231.5	0232.2	2.0	3.0	1.0		
	8800	LEAR	8	S	0231.8	0232.0	.8	22.0			
	2695	LEAR	8	S	0231.8	0232.1	.8	07.0			
	4995	LEAR	8	S	0231.8	0232.1	1.0	16.0			
	15400	LEAR	8	S	0231.8	0232.1	1.0	10.0			
	3750	TYKW	30	PBI	0233.0		20.0	3.0	1.5		
	1000	TYKW	42	SER	0233.0	0233.8	1.2	10.0	1.5		
	3750	TYKW	5	S	0244.0	0245.5	6.0	4.0	1.5		
	9400	TYKW	20	GRF	0245.0U	0330.0	85.0D	6.0	3.0		
	1000	TYKW	20	GRF	0305.0	0325.0	65.0	4.0	2.0		
	100	HIRA	8	S	0329.0	0329.4	.5	200.0			WR
	3750	TYKW	5	S	0510.0	0513.0	10.0	2.0	1.0		
	1415	ATHN	8	S	0555.6	0556.0	.5	69.0			
	9100	GORK	21	GRF	0631.3	0954.5	330.0	26.0			
	100	HIRA	41	F	0637.1	0638.8	2.6	100.0			WR
	6100	KISV	4	S/F	0645.0	0645.2	1.5	4.0			
	3750	TYKW	5	S	0645.0	0645.3	2.0	4.0	1.5		
	127	TORN	4	S/F	0806.3	0807.0	2.0	3900.0	2000.0		
	5200	BERN	3	S	0806.5	0806.8	1.0	18.0			ONLY PAPER REC
	204	IZMI	41	F	0806.5	0807.0	3.0	100.0			
	113	POTS	42	SER	0806.6	0807.0	9.8	1600.0	7.0		III
	430	KRAK	42	SER	0839.3	0920.0	130.0	86.0			
	430	KRAK			0839.3	1018.6		65.0			
	3100	CRIM	20	GRF	0840.0	0924.0	152.0	8.0	3.0		
	8800	LEAR	8	S	0908.3	0909.0	1.0	18.0			
	15400	LEAR	4	S/F	0909.1	0909.1	1.0D	16.0			
	2950	GORK	21	GRF	0921.0	0945.0	159.0	20.0			
	113	POTS	4	S/F	0957.6	0957.6	1.1	280.0	35.0		III
	127	TORN	4	S/F	0957.6	0957.9	2.0	120.0	40.0		
	113	POTS	4	S/F	1033.3	1033.3	.1	1400.0	250.0		III
	6100	KISV	3	S	1136.5	1137.5	2.5	4.0			
	6100	KISV	4	S/F	1141.0	1142.6	2.5	25.0			
	9400	HUAN	1	S	1141.7	1142.6	1.6	17.0	9.2		L
	3200	BERN	3	S	1141.8	1142.5	9.0	15.0			ONLY PAPER REC
	5200	BERN	3	S	1141.8	1142.5	9.0	31.0			ONLY PAPER REC
	8800	SGMR	8	S	1141.8	1142.6	2.0	24.0			
	3000	POTS	3	S	1142.0	1142.6	2.0	10.0			
	9500	POTS	3	S	1142.0	1142.8	3.0	16.0			
	4995	SGMR	8	S	1142.0	1142.6	1.8D	21.0			
	2950	GORK	1	S	1142.0	1142.6	1.5	9.4			
	9100	GORK	1	S	1142.0	1142.7		20.0			
	2695	SGMR	8	S	1142.1	1142.6	1.7D	09.0			
	113	POTS	42	SER	1143.6	1152.4	8.8	140.0	1.0		III
	2800	OTTA	20	GRF	1210.0	1230.0	50.0	4.0	2.0		
	113	POTS	4	S/F	1238.0	1238.1	.1	350.0	100.0		III
	430	KRAK	8	S	1240.7	1240.7	.2	40.0			
	2800	OTTA	21	GRF	1330.0	1505.0	245.0	7.4	3.7		
	9400	HUAN	20	GRF	1444.6	1509.5	40.1	6.8	5.0		0
	2800	OTTA	21	GRF	1600.0	1625.0	65.0	4.2	2.4		
	3200	BERN	4	S/F	1603.6	1604.7	5.0U	45.0			ONLY PAPER REC
	5200	BERN	4	S/F	1603.6	1604.7	5.0U	75.0			ONLY PAPER REC
	8800	SGMR	4	S/F	1603.6	1604.8	3.5	40.0			
	4995	SGMR	4	S/F	1603.8	1604.8	3.5D	67.0			
	2800	OTTA	3	S	1604.0	1605.0	3.0	41.0	14.0		
	2650	DWIN	1	S	1604.0	1605.0	3.0	35.0	15.0		
	2695	SGMR	4	S/F	1604.0	1605.0	3.3D	41.0			
	9400	HUAN	1	S	1604.0	1605.0	2.2	28.8	15.3		R
	9400	HUAN	29	PBI	1606.2	1606.2	70.0	8.5	6.8		0
09	260	ONDR	44	NS	0737.0E	1027.7	438.0D	15.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
09	29	UPIC	43	NS	0904.2	1027.2	250.1D				
	127	TORN	43	NS	0906.0	1104.8	186.0D	10.0	1.0		V1
	33	UPIC	43	NS	0906.3	1027.1	247.9D				
	208	VORO	44	NS	2300.0E		240.0D		9.0		
	3750	TYKW	5	S	0006.0	0007.2	3.0	10.0	2.5		
	2695	LEAR	4	S/F	0006.1	0007.0	2.4	07.0			
	4995	LEAR	4	S/F	0006.1	0007.1	4.0	13.0			
	8800	LEAR	4	S/F	0006.1	0007.3	4.4	20.0			
	9400	TYKW	5	S	0007.0E	0007.0U	3.0D	23.0D	11.0D		
	2000	TYKW	5	S	0008.0E	0008.0U	2.0D	2.0D	0.7D		
	3750	TYKW	29	PBI	0009.0		90.0	3.5	2.0		
	9400	TYKW	29	PBI	0010.0		90.0	8.0	5.0		
	410	LEAR	8	S	0036.0	0036.0	.3	11.0			
	8800	LEAR	8	S	0231.8	0232.0	.8	22.0			
	2695	LEAR	8	S	0231.8	0232.1	.8	07.0			
	4995	LEAR	8	S	0231.8	0232.1	1.0	16.0			
	15400	LEAR	8	S	0231.8	0232.1	1.0	10.0			
	3750	TYKW	21	GRF	0330.0	0513.0	200.0	11.0	5.0		
	2000	TYKW	20	GRF	0330.0	0520.0	180.0	6.0	3.0		
	9400	TYKW	21	GRF	0331.0	0430.0	200.0	10.0	5.0		
	3750	TYKW	20	GRF	0340.0	0350.0	30.0	3.0	1.5		
	8800	LEAR	8	S	0354.8	0355.3	1.5	11.0			
	9400	TYKW	5	S	0354.8	0355.3	1.5	8.0	3.0		
	9400	TYKW	5	S	0434.0	0435.5	10.0	6.0	2.0		
	9400	TYKW	20	GRF	0501.0	0503.0	30.0	5.0	2.0		
	9100	GORK	21	GRF	0540.8		120.0				
	8800	LEAR	4	S/F	0543.6	0544.6	5.0	13.0			
	15400	LEAR	4	S/F	0543.8	0544.6	2.2	10.0			
	9400	TYKW	5	S	0544.0	0544.6	2.0	15.0	7.0		
	9100	GORK	1	S	0544.3	0544.6	1.1	9.4			
	9400	TYKW	29	PBI	0546.0		6.0	5.0	2.0		
	9400	TYKW	5	S	0613.0	0614.1	8.0	7.0	2.0		
	8800	LEAR	4	S/F	0613.8	0614.0	2.2	13.0			
	3750	TYKW	20	GRF	0658.0	0702.5	45.0	7.0	4.0		
	9400	TYKW	21	GRF	0658.0	0715.0	45.0	12.0	7.0		
	2000	TYKW	20	GRF	0659.0	0702.6	30.0	6.0	2.0		
	1470	POTS	4	S/F	0701.0	0702.6	3.0	8.0			
	1000	TYKW	45	C	0702.0	0702.1	1.5	7.0	3.0		
	9100	GORK	3	S	0729.9	0731.2	3.4	40.0			
	9500	POTS	3	S	0733.0	0734.0	7.0	41.0			
	9400	TYKW	5	S	0733.5	0734.3	2.0	38.0	12.0		
	8800	LEAR	8	S	0733.6	0734.1	1.2	44.0			
	15400	LEAR	8	S	0733.8	0734.1	.7	47.0			
	2650	DWIN	1	S	0739.0	0739.0	1.0	12.0	4.0		
	430	KRAK	41	F	0814.0	0814.2	5.8	32.0			
	9100	GORK	22	GRF	0821.0	1010.8	214.0	21.0			
	430	KRAK	8	S	0850.8	0851.0	.4	24.0			
	1470	POTS	40	F	0906.0	0907.5	6.5	31.0			
	2650	DWIN	1	S	0907.0	0907.0	1.0	10.0	3.0		
	430	KRAK	8	S	0932.3	0932.4	.2	20.0			
	9500	POTS	3	S	1009.0	1011.0	6.0	18.0			
	3000	POTS	3	S	1026.5	1027.0	1.2	15.0			
	3200	BERN	3	S	1026.5	1027.0	2.0	23.0			ONLY PAPER REC
	5200	BERN	1	S	1026.5	1027.0	2.0	9.0			ONLY PAPER REC
	1470	POTS	4	S/F	1026.5	1027.3	2.5	8.0			
	127	TORN	7	C	1026.7	1027.3	1.3	70.0	40.0		
	113	POTS	4	S/F	1026.8	1027.2	.8	125.0	10.0		III
	204	IZMI	8	S	1027.0	1027.3	1.0	160.0	120.0		
	2950	GORK	1	S	1027.2	1028.7	1.7	15.0	7.5		
	2650	DWIN	1	S	1032.0	1032.0	1.0	25.0	10.0		
	9400	HUAN	22	GRF	1225.6	1241.6	49.0	21.2	5.9		L
	9500	POTS	23	GRF	1227.0	1242.0	88.0	24.0			
	2650	DWIN	1	S	1242.0	1242.0	1.0	10.0	3.0		
	1470	POTS	40	F	1300.0	1304.5	9.0	4.0			
	2800	OTTA	40	F	1300.0	1305.0	15.0	11.0			
	113	POTS	42	SER	1304.0	1304.4	9.9	300.0	3.0		III
	2650	DWIN	1	S	1306.0	1306.0	1.0	22.0	5.0		
	3100	CRIM	1	S	1326.3	1327.0	2.0	14.0	5.0		
	8800	ATHN	8	S	1420.0	1420.5	1.0	29.0			
	2695	ATHN	8	S	1420.0	1420.5	1.0	23.0			
	8800	SGMR	4	S/F	1420.0	1421.8	5.6	45.0			
	2695	SGMR	8	S	1421.3	1421.8	1.3D	13.0			
	2650	DWIN	1	S	1422.0	1422.0	1.0	18.0	5.0		
	2800	OTTA	240	R	1510.0	1530.0	20.0	4.0	2.4		
	2800	OTTA	1	S	1617.5	1619.0	2.5	3.8			
	2800	OTTA	22	GRF	1650.0	1745.0	90.0	3.6			
	8800	SGMR	4	S/F	1826.6	1827.8	5.2D	25.0			
	245	SGMR	8	S	1831.1	1831.1	.5	200.0			
	2800	OTTA	4	S/F	1912.2	1913.7	4.0	17.4	8.0		
	9400	HUAN	1	S	1912.3	1914.2	3.4	16.7	11.0		L
	8800	PALE	8	S	1913.6	1913.6	.2	28.0			
	4995	PALE	8	S	1913.6	1913.6	.2	30.0			
	9400	HUAN	1	S	2052.0	2052.4	1.4	18.4	8.0		L
	9400	HUAN	4	S/F	2117.1	2118.1	3.7	116.9	46.9		LRL
	8800	PALE	4	S/F	2117.3	2118.0	2.8	100.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
09	9400	TYKW	45	C	2117.5U	2117.8	3.5U	130.0U	25.0U		
	15400	PALE	8	S	2117.6	2118.0	1.0	130.0			
	9400	HUAN	29	PBI	2120.8	2120.8	12.4	8.3	2.2		L
	9400	TYKW	5	S	2132.4	2132.7	4.5	8.0	2.5		
	3750	TYKW	20	GRF	2250.0	0010.0	210.0	9.0	4.0		
	2000	TYKW	21	GRF	2250.0	0015.0	210.0	7.0	3.0		
	1000	TYKW	20	GRF	2250.0	0020.0	210.0	2.0	1.0		
	606	LEAR	8	S	2341.1	2341.3	.4	490.0			
10	245	LEAR	43	NS	0131.1	0552.5	516.9D	84.0			
	100	HIRA	43	NS	0200.0	0614.0	420.0D	20.0	5.0		MR
	410	LEAR	43	NS	0359.0	0650.8	369.0D	41.0			
	200	HIRA	43	NS	0531.0	0602.0	154.0D	10.0	5.0		MR
	127	TORN	44	NS	0630.0E		510.0D		5.0		VO
	260	ONDR	44	NS	0754.0E	1215.0	432.0D	78.0	4.0		
	1415	ATHN	43	NS	0802.1	0802.8	1.9	27.0			
	245	PALE	43	NS	1903.1	0325.0	533.9	150.0			
	200	HIRA	44	NS	2039.0E	0411.0	685.0D	35.0	10.0		MR
	100	HIRA	44	NS	2039.0E	0432.0	685.0D	30.0	10.0		SR
	208	VORO	44	NS	2300.0E		240.0D		15.0		
	9400	TYKW	21	GRF	0008.0	0014.0	50.0	4.0	2.0		
	9400	TYKW	5	S	0032.0	0033.0	9.0	4.0	2.0		
	2000	TYKW	42	SER	0037.0	0038.3	1.5	24.0	3.0		
	9400	TYKW	5	S	0043.0	0043.2	3.0	6.0	2.0		
	9400	TYKW	21	GRF	0104.0	0105.5	30.0	7.0	2.0		
	9400	TYKW	5	S	0215.5	0216.0	2.5	8.0	3.0		
	3750	TYKW	5	S	0335.0	0335.6	2.0	1.5	0.5		
	3750	TYKW	21	GRF	0440.0	0505.0	130.0	3.0	1.5		
	2000	TYKW	21	GRF	0440.0	0540.0	140.0	3.0	1.5		
	9400	TYKW	5	S	0454.0	0454.8	3.0	4.0	1.5		
	9400	TYKW	28	PRE	0522.0	0530.0	10.0	7.0	4.0		
	9100	GORK	21	GRF	0522.2	0533.8	35.2	29.0	10.0		
	3750	TYKW	28	PRE	0525.0	0532.0	7.0	3.0	1.5		
	4995	MANI	3	S	0531.3	0532.3	1.7	109.5	36.5		
	1415	MANI	1	S	0531.5	0532.0	1.5	4.8	1.6		
	8800	MANI	3	S	0531.6	0532.3	1.9	155.9	52.0		
	606	MANI	3	S	0531.6	0532.3	1.4	46.2	15.4		
	2695	MANI	3	S	0531.7	0532.2	1.1	35.4	11.8		
	1000	TYKW	5	S	0532.0	0532.6	1.5	4.0	1.5		
	2000	TYKW	5	S	0532.0	0532.9	2.0	21.0	5.0		
	9400	TYKW	5	S	0532.0	0532.9	3.0	170.0	35.0		
	3750	TYKW	5	S	0532.0	0533.0	2.0	62.0	18.0		
	100	HIRA	46	C	0532.1	0532.3	1.5	590.0	210.0		0
	1415	LEAR	8	S	0532.1	0532.8	1.2	09.0			
	8800	ATHN	8	S	0532.1	0532.8	2.0	98.0			
	8800	LEAR	4	S/F	0532.1	0532.8	4.7	190.0			
	2695	ATHN	8	S	0532.1	0533.0	1.2	33.0			
	2950	GORK	3	S	0532.2	0532.9	1.3	32.0	16.0		
	17000	NOBE	3	S	0532.2	0532.9	2.0	107.0			L
	650	GORK	4	S/F	0532.2	0533.0U	1.2	20.0D			
	15400	LEAR	8	S	0532.3	0532.8	1.7	139.0			
	1415	ATHN	8	S	0532.3	0532.8	1.0D	15.0			
	4995	LEAR	8	S	0532.3	0532.8	1.0	86.0			
	500	HIRA	45	C	0532.3	0533.0	1.3	20.0	14.0		SR
	9100	GORK	3	S	0532.4	0532.9	1.4	151.0	75.0		
	2695	LEAR	8	S	0532.5	0532.8	.6	36.0			
	606	LEAR	8	S	0532.5	0532.8	.6	61.0			
	410	LEAR	8	S	0532.5	0533.0	.6	08.0			
	3750	TYKW	30	PBI	0534.0		55.0U	6.0	3.0		INTERFERENCE
	9400	TYKW	30	PBI	0535.0		80.0	13.0	4.0		
	9400	TYKW	28	PRE	0543.7	0544.3	7.3	7.0	3.0		
	606	LEAR	8	S	0548.8	0549.1	.3	11.0			
	9400	TYKW	5	S	0551.0	0551.7	2.0	155.0	16.0		
	15400	LEAR	4	S/F	0551.1	0551.6	2.7	170.0			
	3750	TYKW	5	S	0551.3	0551.7	1.5	22.0	4.0		
	2695	ATHN	8	S	0551.5	0551.6	.3	18.0			
	8800	ATHN	8	S	0551.5	0551.6	.5	61.0			
	8800	LEAR	8	S	0551.6	0551.6	2.0	160.0			
	4995	LEAR	8	S	0551.6	0551.6	1.0	44.0			
	17000	NOBE	8	S	0551.6	0551.7	.4	128.0			L
	2000	TYKW	5	S	0551.6	0551.8	1.5	18.0	3.0		
	1415	ATHN	8	S	0551.6	0551.8	.5D	15.0			
	1415	LEAR	8	S	0551.6	0551.8	.9	17.0			
	606	LEAR	8	S	0551.6	0551.8	.4	18.0			
	2695	LEAR	8	S	0551.6	0551.8	.7	19.0			
	1000	TYKW	5	S	0551.6	0551.8	1.5	6.0	2.0		
	9400	TYKW	30	PBI	0553.0		5.0	4.0	2.0		
	1000	TYKW	45	C	0553.7	0554.9	3.0	6.0	2.0		
	9400	TYKW	5	S	0554.5	0554.8	1.0	6.0	2.0		
	9400	TYKW	20	GRF	0559.0	0602.0	30.0	4.0	2.0		
	3750	TYKW	5	S	0604.0	0606.0	20.0U	4.0	2.0		
	2000	TYKW	45	C	0605.0	0605.8U	1.0D	8.0	2.0D		
	1415	LEAR	8	S	0605.6	0605.8	.5	30.0			
	1470	POTS	4	S/F	0807.3	0809.0	1.7	59.0			
	930	BORD	41	F	0808.0	0808.1	.4	41.0	2.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
10	9100	GORK	21	GRF	0903.8	0935.8	61.7	15.6	7.0		
	9500	POTS	29	PBI	0935.5	0935.7	39.0	30.0			
	6100	KISV	4	S/F	0935.5	0935.9	3.0	9.0			
	9100	GORK	1	S	0936.6	0935.9	.7	31.0	15.0		
	1470	POTS	4	S/F	1024.5	1025.3	1.5	52.0			
	2650	DWIN	2	S/F	1025.0	1027.0	3.0	28.0	10.0		
	3000	POTS	4	S/F	1025.0	1026.3	3.5	25.0			
	6100	KISV	1	S	1026.8	1027.1	1.0	5.0			
	6100	KISV	1	S	1134.0	1134.4	1.0	4.0			
	9400	HUAN	3	S	1247.5	1248.4	2.3	234.5	188.7		L
	9500	POTS	3	S	1247.5	1248.5	14.0	261.0			
	5200	BERN	4	S/F	1247.5	1248.5	6.0	35.0			ONLY PAPER REC
	15400	SGMR	4	S/F	1247.5	1248.5	8.0D	450.0			
	4995	SGMR	4	S/F	1248.0	1248.6	5.5D	30.0			
	9400	HUAN	29	PBI	1249.8	1249.8	25.3	149.7	34.3		0
	9400	HUAN	22	GRF	1348.6	1428.2	68.6	20.0	55.6		0
	930	BORD	8	S	1400.2	1400.2	.1	18.0	1.0		
	2800	OTTA	240	R	1410.0	1420.0	10.0	4.0	2.0		
	9500	POTS	7	C	1423.0	1424.8	3.0	26.0			
	2800	OTTA	21	GRF	1423.0	1437.0	37.0	3.2	1.8		
	8800	SGMR	4	S/F	1423.5	1424.6	10.1D	27.0			
	9400	HUAN	2	S/F	1423.7	1425.3	3.6	26.6	17.0		0
	2800	OTTA	1	S	1423.8	1424.1	2.0	2.4			
	15400	SGMR	4	S/F	1423.8	1424.6	5.5	34.0			
	2950	GORK	4	S/F	1424.8	1426.2	4.0	27.0			
	9400	HUAN	22	GRF	1545.3	1600.8	30.2	13.3	9.2		0
	2800	OTTA	8	S	1721.7	1721.8	.3	4.2			
	2800	OTTA	20	GRF	1805.0	1810.0	20.0	3.2	1.6		
	2800	OTTA	23	GRF	1900.0	2120.0	230.0	8.8	4.4		
	9400	HUAN	23	GRF	1910.6	2003.6	142.7	21.6	8.4		0
	9400	HUAN	3	S	2027.8	2029.0	2.9	49.9	27.4		0
	2800	OTTA	3	S	2058.0	2059.0	3.0	29.0	9.6		
	9400	TYKW	45	C	2303.0	2304.5	4.0	21.0	10.0		
	3750	TYKW	21	GRF	2303.0	2304.7	35.0	4.0	2.0		
	9400	TYKW	29	PBI	2307.0		35.0	8.0	4.0		
	3750	TYKW	5	S	2323.4	2323.6	.6	4.0	1.5		
	2000	TYKW	8	S	2323.5	2323.6	.3	4.0	1.5		
	9400	TYKW	45	C	2347.0	2350.8	14.0	43.0	23.0		
	3750	TYKW	20	GRF	2348.0	2355.0	55.0	12.0	4.0		
	2000	TYKW	20	GRF	2348.0	2357.0	55.0	4.0	1.5		
	17000	NOBE	20	GRF	2348.3	2350.4	45.0	52.0			L
	1000	TYKW	5	S	2350.0	2350.1	.5	12.0	4.0		
11	127	TORN	44	NS	0630.0E		510.0D		6.0		V1
	260	ONDR	44	NS	0802.0E	0932.3	270.0D	59.0	8.0		
	536	ONDR	43	NS	0900.0	1025.7	212.0D	58.0	9.0		
	430	KRAK	43	NS	0919.0	1225.0	290.0D	40.0			
	29	UPIC	43	NS	0929.0		198.8D				
	33	UPIC	43	NS	0929.1		198.6D				
	100	HIRA	44	NS	2039.0E	0617.0	680.0D	100.0	30.0		MR
	200	HIRA	44	NS	2039.0E	0623.0	680.0D	250.0	80.0		MR
	208	VORO	44	NS	2300.0E		240.0D		46.0		
	9400	TYKW	30	PBI	0001.0		30.0	15.0	6.0		
	9400	TYKW	5	S	0002.5	0003.0	1.5D	5.0	3.0D		
	9400	TYKW	5	S	0016.0	0018.0	12.0	3.0	1.5		
	9400	TYKW	5	S	0031.0	0032.3	3.0	8.0	3.0		
	9400	TYKW	21	GRF	0130.0	0200.0	60.0	3.0	1.5		
	3750	TYKW	21	GRF	0200.0	0500.0	290.0	8.0	4.0		
	9400	TYKW	5	S	0204.0	0215.0	23.0	6.0	3.0		
	2000	TYKW	21	GRF	0210.0	0500.0	280.0	6.0	3.0		
	9400	TYKW	5	S	0231.0	0232.5	3.0	11.0	5.0		
	3750	TYKW	5	S	0231.0	0233.0	8.0	2.0	1.0		
	9400	TYKW	29	PBI	0234.0		10.0	4.0	2.0		
	1000	TYKW			0248.0	0248.4		2.0			
	2000	TYKW	5	S	0248.0	0248.4	1.0	7.0	3.0		
	3750	TYKW	5	S	0248.0	0248.5	1.0	9.0	3.0		
	9400	TYKW	5	S	0248.0	0248.5	1.0	12.0	5.0		
	2000	TYKW	45	C	0248.0	0248.8U	.8D	2.0D	1.0D		
	9400	TYKW	29	PBI	0249.0		10.0	3.0	1.5		
	9400	TYKW	5	S	0307.0E	0307.3	1.0D	6.0	2.0D		
	9400	TYKW	21	GRF	0310.0	0420.0	150.0U	6.0	3.0		INTERFERENCE
	2000	TYKW	45	C	0315.5	0317.4	6.0	37.0	3.0		
	1000	TYKW	42	SER	0316.3	0319.2	4.0	9.0	1.0		
	3750	TYKW	5	S	0333.0	0333.6	1.0	22.0	9.0		
	2000	TYKW	45	C	0333.0	0333.7	5.0	24.0	4.0		
	3750	TYKW	30	PBI	0334.0		15.0	4.0	2.0		
	9400	TYKW	5	S	0334.5	0336.0	2.5	55.0	19.0		
	17000	NOBE	1		0334.9	0335.9	2.0	50.0	.0		0
	3750	TYKW	5	S	0335.5	0336.2	2.5	8.0	3.0		
	9400	TYKW	30	PBI	0337.0		12.0	3.0	1.5		
	2000	TYKW	29	PBI	0338.0		10.0	1.5	0.7		
	9400	TYKW	5	S	0341.5	0342.0	2.0	8.0	3.0		
	3750	TYKW	5	S	0412.0	0418.0	20.0	2.0	1.0		
	2000	TYKW	5	S	0412.0	0418.0	20.0	1.5	0.7		
	3750	TYKW	29	PBI	0430.7		10.0	2.0	1.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
11	9100	GORK	23	GRF	0433.0E		387.0D				
	9400	TYKW	5	S	0434.5	0435.0	2.5	26.0	11.0		
	1000	TYKW	45	C	0434.5	0435.0	2.0	64.0	7.0		
	2000	TYKW	5	S	0434.5	0435.0	3.0	11.0	3.0		
	3750	TYKW	5	S	0434.5	0435.2	2.5	12.0	5.0		
	9400	TYKW	29	PBI	0437.0		10.0	7.0	4.0		
	9400	TYKW	21	GRF	0452.0	0457.0	40.0	5.0	3.0		
	9400	TYKW	5	S	0504.0	0506.3	12.0	16.0	5.0		
	6100	KISV	8	S	0707.0	0707.5	1.0	12.0			
	3000	POTS	1	S	0707.0	0707.6	14.0	4.0			
	9500	POTS	1	S	0707.0	0707.6	1.0	10.0			
	9100	GORK	2	S/F	0707.3	0707.6	.8	17.0			
	1470	POTS	1	S	0707.5	0707.7	.5	3.0			
	234	POTS	4	S/F	0707.7	0707.7	.3	300.0	8.0		III
	3200	BERN	3	S	0746.7	0747.5	3.0	31.0			ONLY PAPER REC
	5200	BERN	3	S	0746.7	0747.5	3.0	27.0			ONLY PAPER REC
	2650	DWIN	1	S	0747.0	0747.0	2.0	25.0	10.0		
	9100	GORK	2	S/F	0747.0U	0748.7	1.8U	13.3			
	3000	POTS	3	S	0747.0	0747.6	3.0	28.0			
	1470	POTS	3	S	0747.0	0747.8	3.0	6.0			
	6100	KISV	45	C	0747.4	0747.8	2.0	9.0			
	9500	POTS	20	GRF	0813.0		92.0				
	6100	KISV	27	RF	0818.0	0829.0	20.0	12.0			
	2950	GORK	21	GRF	0820.9	0926.0	159.0D	13.0			
	2650	DWIN	1	S	0821.0	0821.0	1.0	45.0	15.0		
	3200	BERN	3	S	0821.0	0821.5	1.5U	38.0			ONLY PAPER REC
	5200	BERN	3	S	0821.0	0821.5	1.5U	18.0D			ONLY PAPER REC
	3000	POTS	3	S	0821.0	0821.6	1.7	50.0			
	1470	POTS	3	S	0821.0	0821.7	1.7	7.5			
	2950	GORK	3	S	0821.2	0821.6	1.8	45.0	22.0		
	6100	KISV	8	S	0821.3	0821.7	1.0	9.0			
	430	KRAK	8	S	0841.1	0841.1	.2	100.0			
	650	GORK	21	GRF	0912.0	1043.8	108.0D	9.0			
	3000	POTS	23	GRF	1020.0	1038.5	50.0	40.0			
	204	IZMI	8	S	1022.5	1022.6	.6	300.0	220.0		
	810	KRAK	8	S	1024.7	1025.0	.9	11.0			
	430	KRAK	2	S/F	1024.8	1025.3	1.5	28.0	12.0		
	950	GORK	20	GRF	1025.0	1037.0	22.5	5.0			
	650	GORK	4	S/F	1025.1	1025.5	1.1	11.5	5.5		
	2650	DWIN	1	S	1028.0	1028.0	1.0	18.0	7.0		
	3200	BERN	3	S	1028.5	1029.0	2.5	19.0			ONLY PAPER REC
	2950	GORK	1	S	1028.7	1029.2	1.3	13.0			
	9100	GORK	45	C	1035.6	1037.0	3.7	15.0			
	9100	GORK			1035.6	1038.5		13.0			
	5200	BERN	45	C	1036.1	1038.2	4.5	35.0			ONLY PAPER REC
	3200	BERN	45	C	1036.1	1038.2	4.5	34.0			ONLY PAPER REC
	6100	KISV	8	S	1036.5	1037.0	1.0	16.0			
	2950	GORK	4	S/F	1036.6	1038.5	5.5	30.0			
	2650	DWIN	2	S/F	1037.0	1039.0	4.0	27.0	8.0		
	810	KRAK	8	S	1037.0	1037.4	.6	30.0			
	430	KRAK	8	S	1037.0	1037.5	.6	14.0			
	6100	KISV	4	S/F	1037.5	1038.4	2.0	14.0			
	1470	POTS	3	S	1112.0	1112.9	1.5	12.0			
	930	BORD	41	F	1200.6	1200.9	7.0	27.0	2.0		
	9500	POTS	21	GRF	1210.0	1225.4	80.0	30.0			
	930	BORD	41	F	1217.0	1226.5	15.6	17.0	2.0		
	2800	OTTA	21	GRF	1220.0	1230.0	40.0	6.4	3.2		
	1470	POTS	23	GRF	1222.0	1225.0	53.0	8.0			
	3000	POTS	23	GRF	1222.0	1241.0	33.0	22.0			
	9400	HUAN	4	S/F	1222.7	1225.3	7.0	16.4	13.0		0
	2800	OTTA	45	C	1223.0	1223.5	3.5	9.0	4.5		
	5200	BERN	22	GRF	1223.0	1223.7	9.0	22.0			ONLY PAPER REC
	3200	BERN	22	GRF	1223.0	1223.7	9.0	15.0			ONLY PAPER REC
	2650	DWIN	2	S/F	1224.0	1224.0	3.0	10.0	3.0		
	9400	HUAN	29	PBI	1229.7	1229.7	27.3	6.6	3.0		0
	2650	DWIN	1	S	1240.0	1240.0	1.0	15.0	5.0		
	3200	BERN	41	F	1240.2	1240.7	12.0U	23.0			ONLY PAPER REC
	2800	OTTA	3	S	1240.3	1240.7	1.0	13.6	6.4		
	2650	DWIN	1	S	1248.0	1248.0	1.0	10.0	3.0		
	2800	OTTA	1	S	1248.0	1248.3	1.0	4.6	2.0		
	930	BORD	41	F	1407.3	1409.0	3.0	301.0	3.0		
	2800	OTTA	8	S	1430.9	1431.0	.4	5.8			
	9400	HUAN	1	S	1433.7	1435.3	3.0	11.5	8.9		0
	9400	HUAN	2	S/F	1507.9	1509.1	1.9	18.1	11.5		R
	2800	OTTA	1	S	1511.0	1511.5	1.3	5.4	2.7		
	3200	BERN	4	S/F	1511.3	1511.7	1.5	11.0			ONLY PAPER REC
	5200	BERN	4	S/F	1511.3	1511.7	2.0	53.0			ONLY PAPER REC
	9400	HUAN	3	S	1511.5	1512.0	1.7	36.1	12.4		L
	930	BORD	41	F	1517.0	1600.2	58.0	228.0	2.0		
	9400	HUAN	21	GRF	1552.7	1616.2	45.4	14.8	6.1		0
	2800	OTTA	8	S	1552.8	1553.0	.6	4.4	2.0		
	2800	OTTA	22	GRF	1610.0	1635.0	80.0	3.6	2.0		
	9400	HUAN	1	S	1631.7	1632.3	1.2	9.8	3.3		0
	9400	HUAN	2	S/F	1743.3	1744.2	2.1	6.6	4.7		0
	2800	OTTA	8	S	1803.7	1803.8	.4	5.8	2.9		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
11	9400	HUAN	1	S	1813.5	1814.3	2.2	13.1	9.1		0
	2800	OTTA	22	GRF	1910.0	2030.0	270.0	7.2	4.6		
	9400	TYKW	21	GRF	2130.0U	2210.0	150.0D	12.0	6.0		
	3750	TYKW	20	GRF	2130.0U	2210.0	130.0D	7.0	4.0		
	2000	TYKW	20	GRF	2130.0U	2210.0	120.0D	4.0	2.0		
	1000	TYKW	45	C	2250.5	2250.7	1.0	17.0	3.0		
	1000	TYKW	45	C	2252.5	2318.6	55.0	40.0	2.0		
	9400	TYKW	5	S	2340.0	2340.8	2.0U	8.0	3.0U		
12	127	TORN	44	NS	0626.0E		540.0D		45.0		V1
	33	UPIC	43	NS	0626.7	1119.1	423.0D				
	29	UPIC	43	NS	0631.6		429.9D				
	536	ONDR	44	NS	0733.0E	1041.8	445.0D	110.0	4.0		
	260	ONDR	44	NS	0733.0E	1106.5	437.0D	111.0	14.0		
	430	KRAK	44	NS	0751.0E		360.0D				
	204	IZMI	44	NS	0805.0E		235.0D	50.0			
	100	HIRA	44	NS	2040.0E	0412.0	680.0D	490.0	300.0		SR
	200	HIRA	44	NS	2040.0E	2145.0	680.0D	270.0	85.0		MR
	208	VORO	44	NS	2300.0E		240.0D		43.0		
	3750	TYKW	21	GRF	0023.0	0110.0	180.0	6.0	3.0		
	1000	TYKW	45	C	0040.0	0201.2	155.0	5.0	1.5		
	2000	TYKW	21	GRF	0050.0	0150.0	70.0	3.0	1.5		
	9400	TYKW	21	GRF	0103.0	0127.0	140.0	6.0	2.0		
	3750	TYKW	21	GRF	0125.0	0127.0	40.0	3.0	1.5		
	2000	TYKW	5	S	0125.5	0126.6	2.0	10.0	2.5		
	3750	TYKW	5	S	0140.0	0146.0	15.0	2.0	1.0		
	9400	TYKW	5	S	0141.9	0142.1	15.0	8.0	2.0		
	9400	TYKW	5	S	0203.0	0204.0	15.0	4.0	2.0		
	2000	TYKW	21	GRF	0220.0	0235.0	60.0	2.0	1.0		
	9400	TYKW	28	PRE	0222.0	0232.0	10.0	7.0	4.0		
	2000	TYKW	5	S	0225.0	0225.3	.7	26.0	10.0		
	3750	TYKW	5	S	0225.0	0236.2	20.0	13.0	7.0		
	9400	TYKW	45	C	0232.0	0236.3	5.0	21.0	13.0		
	9400	TYKW	30	PBI	0237.0		45.0	14.0	4.0		
	3750	TYKW	30	PBI	0245.0		35.0	6.0	3.0		
	3750	TYKW	5	S	0245.0	0246.0	5.0	3.0	1.0		
	9400	TYKW	5	S	0252.0	0253.6U	10.0	9.0D	3.0D		
	17000	NOBE	1	S	0311.9	0312.3	4.0	15.0			0
	9400	TYKW	45	C	0312.0	0312.3	6.0	28.0	8.0		
	9400	TYKW	21	GRF	0327.0	0404.0	135.0	8.0	3.0		
	3750	TYKW	21	GRF	0330.0	0355.0	110.0	7.0	3.0		
	9400	TYKW	5	S	0333.0	0334.0	4.0	15.0	3.0		
	2000	TYKW	21	GRF	0335.0	0355.0	50.0	2.0	1.0		
	9400	TYKW	5	S	0343.0	0344.0	5.0	6.0	2.0		
	2000	TYKW	45	C	0345.7	0346.3	.8	5.0	2.0		
	2000	TYKW	5	S	0350.0	0350.3	.6	14.0	6.0		
	9400	TYKW	5	S	0407.0	0408.6	6.0	14.0	5.0		
	9400	TYKW	30	PBI	0413.0		11.0	3.0	1.5		
	2950	GORK	46	C	0420.5E	0433.0	126.0D	145.0			
	2950	GORK			0420.5E	0437.1		196.0			
	9400	TYKW	5	S	0421.0	0421.8	2.0	4.0	1.5		
	9400	TYKW			0421.0	0423.8		62.0			
	1000	TYKW			0421.0	0432.8		37.0			
	3750	TYKW			0421.0	0432.8		131.0			
	2000	TYKW			0421.0	0432.8		107.0			
	9400	TYKW	28	PRE	0426.0	0427.7	5.0	9.0	3.0		
	950	GORK	23	GRF	0430.0E		450.0D				
	650	GORK	23	GRF	0430.0E	1012.0	450.0D	63.0			
	9100	GORK	23	GRF	0430.3	0803.8	450.0D	150.0			
	1000	TYKW	45	C	0431.0	0432.8	15.0	43.0	15.0		
	9400	TYKW	45	C	0431.0	0436.9	15.0	68.0	19.0		
	650	GORK	4	S/F	0431.1	0435.9	6.3	12.0			
	9100	GORK	46	C	0431.3	0432.7	7.2	80.0			
	9100	GORK			0431.3	0436.8		60.0			
	17000	NOBE	1	S	0431.4	0432.9	6.0	20.0			0
	500	HIRA	7	C	0431.5	0431.7	16.0	1100.0	30.0		WLWR
	100	HIRA	46	C	0431.5	0432.8	3.1	1900.0	540.0		0
	2000	TYKW	45	C	0431.5	0437.0	14.5	155.0	50.0		
	3750	TYKW	45	C	0431.5	0437.0	14.5	205.0	50.0		
	606	MANI	4	S/F	0431.6	0437.0	15.4	113.1	37.7		
	950	GORK	46	C	0431.7	0432.7	10.7	35.0			
	950	GORK			0431.7	0436.9		21.0			
	200	HIRA	42	SER	0431.9	0436.4	21.0	2200.0			0
	4995	MANI	4	S/F	0432.0	0437.3	13.0	407.6	135.9		
	2695	MANI	4	S/F	0432.0	0437.4	15.0	227.4	75.8		
	8800	MANI	4	S/F	0432.0	0437.4	10.0	77.4	25.8		
	1415	MANI	4	S/F	0432.3	0437.5	14.7	60.5	20.2		
	2950	GORK	29	PBI	0442.2	0442.2		36.0			
	3750	TYKW	30	PBI	0446.0		25.0	5.0	2.0		
	2000	TYKW	29	PBI	0446.0		20.0	6.0	2.0		
	1000	TYKW	29	PBI	0446.0		10.0	2.0	1.0		
	3750	TYKW	5	S	0451.0	0454.6	17.0	9.0	3.0		
	9400	TYKW	5	S	0454.0	0457.0	7.0	6.0	3.0		
	9400	TYKW	5	S	0503.5	0504.2	1.5	54.0	20.0		
	9100	GORK	3	S	0503.8	0504.2	3.0	60.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
12	17000	NOBE	1	S	0503.9	0504.2	1.0	46.0			0
	9400	TYKW	29	PBI	0505.0		5.0	7.0	3.0		
	9400	TYKW	45	C	0511.0	0516.0	14.0	29.0	13.0		
	9100	GORK	1	S	0514.2	0515.3	4.8	24.0			
	9400	TYKW	29	PBI	0525.0		1.0	6.0	3.0		
	9400	TYKW	5	S	0550.5	0551.1	1.5	15.0	6.0		
	3750	TYKW	5	S	0550.8	0551.1	2.0	21.0	6.0		
	2950	GORK	47	GB	0550.9	0648.0U	360.0	8600.0E			
	9400	TYKW	5	S	0555.0	0555.2	.6	6.0	2.0		
	3750	TYKW	28	PRE	0557.0	0620.0	23.0	32.0	7.0		
	9400	TYKW	28	PRE	0558.0	0620.0	22.0	30.0	6.0		
	228	HARS	47	GB	0600.0	0632.0	130.0D	780.0	380.0		
	2000	TYKW	28	PRE	0601.0	0620.0	19.0	22.0	4.0		
	6100	KISV	47	GB	0614.0		110.0	600.0D			
	6100	KISV			0614.0	0629.5		190.0			
	6100	KISV			0614.0	0648.0		2200.0			
	3100	CRIM	47	GB	0615.0	0624.0	69.0	1002.0			
	3100	CRIM			0615.0	0625.0		212.4			
	3100	CRIM			0615.0	0627.0		256.7	800.0		
	1000	TYKW	28	PRE	0616.0	0619.2	4.0	20.0	3.0		
	3000	IZMI	47	GB	0617.0	0649.5	100.0	22950.0	6300.0		
	500	HIRA	48	C	0618.0	0645.0	100.0D	88000.0	6000.0		SR,SUNSET
	950	GORK	47	GB	0618.4	0645.0	90.2	6500.0D			
	606	MANI	47	GB	0619.0	0634.5	99.0	52000.0	1700.0		
	9100	GORK	47	GB	0619.6	0633.4	104.0	16300.0			
	1000	TYKW			0620.0	0630.8		20000.0			
	2000	TYKW	47	GB	0620.0	0632.0	60.0	13900.0	3500.0		
	9400	TYKW	47	GB	0620.0	0633.5	60.0	22500.0	900.0		
	1000	TYKW	47	GB	0620.0	0643.6	60.0	69700.0	4500.0		
	9400	TYKW			0620.0	0647.9		20700.0			
	3750	TYKW	47	GB	0620.0	0649.1	60.0	17400.0	5500.0		
	2000	TYKW			0620.0	0651.5		10100.0			
	650	GORK	47	GB	0620.0		106.0	2000.0D			
	17000	NOBE	49	GB	0620.1	0627.7	87.0D	27200.0			L
	8800	MANI	47	GB	0620.3	0648.0D	86.7	19750.0D	6583.0D		
	4995	MANI	47	GB	0620.3	0648.1	86.7	36000.0	7800.0		
	2695	MANI	47	GB	0620.3	0650.8	88.7	22750.0	6000.0		
	1415	MANI	47	GB	0620.8	0632.0	96.2	8700.0	2200.0		
	113	POTS	49	GB	0625.0	0631.0	103.0	14000.0D			II+IV
	234	POTS	49	GB	0625.0	0636.0	103.0	13000.0			II+IV
	200	HIRA	48	C	0625.5	0630.3	96.0D	800.0	140.0D		O,SUNSET
	200	HIRA			0625.5	0703.3		760.0			MR
	200	HIRA			0625.5	0731.1		3600.0U			WL
	204	IZMI	48	C	0625.8	0630.3	52.2	3000.0	600.0		
	100	HIRA	48	C	0626.0		94.0D	50000.0U	3500.0D		-,SUNSET
	127	TORN	27	RF	0626.0		105.0		1100.0		
	100	HIRA			0626.0	0637.3		45000.0			WR
	100	HIRA			0626.0	0645.7		3800.0			WR
	100	HIRA			0626.0	0743.6		3000.0U			WR
	35000	NAGO	47	GB	0627.0	0632.0	100.0D	12000.0			
	2650	DWIN	49	GB	0630.0U	0700.0U		400.0D			
	33	UPIC	48	C	0630.6	0632.7	18.2				
	29	UPIC	48	C	0635.7	0637.9	13.7				
	9500	POTS	45	C	0645.0E		430.0D				
	3000	POTS	45	C	0645.0E		430.0D				
	1470	POTS	45	C	0645.0E	0700.0U	575.0D	2900.0U			
	204	IZMI	48	C	0718.0	0731.8	47.0	1100.0	500.0		
	1000	TYKW	30	PBI	0720.0		30.0D	195.0	150.0D		
	9400	TYKW	29	PBI	0720.0		30.0D	700.0	450.0D		
	2000	TYKW	30	PBI	0720.0		30.0D	350.0	190.0D		
	3750	TYKW	29	PBI	0720.0		30.0D	490.0	260.0D		
	1000	TYKW	47	GB	0721.0	0728.3	25.0	680.0	120.0		
	2000	TYKW	45	C	0723.0	0729.8	17.0	150.0	60.0		
	6100	KISV	29	PBI	0724.0	0724.0		290.0			
	3100	CRIM	29	PBI	0724.0	0724.0		568.0			
	3200	BERN	47	GB	0729.5E	0729.5E	19.0D	193.0D			ONLY PAPER REC
	5200	BERN	47	GB	0729.5E	0729.5E	19.0D	212.0D			ONLY PAPER REC
	260	ONDR	48	C	0733.0E		37.0D	182.0D	150.0		
	930	BORD	46	C	0733.0E	0733.0U	36.0D	207.0			
	536	ONDR	48	C	0733.0E	0734.0	27.0D	202.0	137.0		
	808	ONDR	46	C	0733.0E	0734.0	30.0D	70.0	46.0		
	430	KRAK	47	GB	0751.0E		15.0D	180.0D	50.0D		
	810	KRAK	45	C	0751.0E		17.0D	45.0D	22.0D		
	234	POTS	4	S/F	0815.3	0815.4	.3	300.0	25.0		
	810	KRAK	8	S	0845.4	0845.4	.2	19.0			
	930	BORD	41	F	0849.0	0852.5	6.4	33.0	3.0		
	430	KRAK	7	C	0849.8	0851.6	6.6	23.0	10.0		
	810	KRAK	40	F	0850.0	0853.9	5.1	40.0			
	930	BORD	46	C	0913.0	0914.5	3.0	146.0	3.0		
	808	ONDR	45	C	0913.4	0914.4	3.0	68.0	4.0		
	950	GORK	4	S/F	0913.7	0914.2	1.7	48.0			
	810	KRAK	8	S	0914.1	0914.2	.2	115.0			
	810	KRAK	45	C	0930.9	0934.0U	8.6	50.0	10.0		
	430	KRAK	27	RF	0930.9	0937.9	13.2	81.0	9.0		
	808	ONDR	45	C	0932.0	0938.1	15.0	40.0	17.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
12	950	GORK	4	S/F	0932.4	0935.4	6.8	78.0			
	930	BORD	46	C	0932.4	0938.4	7.0	228.0	6.0		
	1470	POTS	4	S/F	0932.5	0935.5	6.5	51.0			
	536	ONDR	46	C	0953.0	1003.5	34.0	91.0	31.0		
	808	ONDR	45	C	0955.0	1011.8	34.0	85.0	56.0		
	950	GORK	46	C	0955.6	1004.0	31.0	45.0			
	950	GORK			0955.6	1010.2		102.0			
	810	KRAK	45	C	0959.5	1004.1	27.5	30.0	50.0		
	810	KRAK			0959.5	1011.6		110.0			
	430	KRAK	45	C	0959.6	1004.3	28.4	130.0	20.0		
	430	KRAK			0959.6	1012.9		63.0			
	5200	BERN	45	C	0959.7	1010.3	50.0	88.0			ONLY PAPER REC
	3200	BERN	45	C	0959.7	1010.3	50.0	93.0			ONLY PAPER REC
	930	BORD	3	S	1000.0	1011.0	27.0	83.0	28.0		
	2650	DWIN	47	GB	1000.0	1040.0	40.0	120.0	50.0		
	3100	CRIM	45	C	1000.0	1004.4	30.0	22.0	37.0		
	3100	CRIM			1000.0	1010.5		112.0			
	3000	IZMI	7	C	1000.0	1010.5	22.5	218.0	104.0		
	1470	POTS	4	S/F	1000.0	1011.0	34.0	128.0			
	3000	POTS	4	S/F	1000.0	1011.0	35.0	129.0			
	9100	GORK	45	C	1000.9	1004.2	14.5	24.0			
	9100	GORK			1000.9	1010.4		38.0			
	9100	GORK	46	C	1038.6	1039.8	10.2	54.0			
	9100	GORK			1038.6	1041.4		70.0			
	2650	DWIN	4	S/F	1039.0	1041.0	4.0	50.0	20.0		
	810	KRAK	5	S	1039.0	1040.3	2.1	50.0	20.0		
	3100	CRIM	1	S	1039.5	1041.5	5.0	20.0	7.0		
	950	GORK	4	S/F	1039.8	1040.6	1.9	28.0			
	3000	POTS	4	S/F	1040.0	1041.5	3.0	37.0			
	808	ONDR	42	SER	1041.0	1140.8	63.0	38.0			
	9500	POTS	4	S/F	1041.0	1041.3	2.0	97.0			
	650	GORK	4	S/F	1041.0	1041.5	1.3	140.0	24.0		
	1470	POTS	4	S/F	1041.0	1041.8	2.5	65.0			
	430	KRAK	4	S/F	1041.2	1041.7	2.2	46.0	11.0		
	930	BORD	46	C	1041.2	1041.8	3.0	47.0	4.0		
	810	KRAK	8	S	1041.3	1041.8	1.1	330.0			
	234	POTS	4	S/F	1043.6	1043.7	1.4	425.0	4.0		
	3100	CRIM	41	F	1047.0	1101.0	14.0	23.0	8.0		
	3100	CRIM			1047.0	1103.0		18.0			
	2650	DWIN	1	S	1051.0	1051.0	1.0	30.0	10.0		
	650	GORK	4	S/F	1056.5	1057.0	.8	140.0	46.0		
	5200	BERN	22	GRF	1056.5	1108.6	32.0U	37.0			ONLY PAPER REC
	3200	BERN	22	GRF	1056.5	1113.5	32.0U	45.0			ONLY PAPER REC
	950	GORK	4	S/F	1056.6	1057.1	.8	102.0			
	9500	POTS	3	S	1057.0	1057.5	2.0	260.0			
	9100	GORK	3	S	1057.0	1057.8	1.9	160.0			
	1470	POTS	40	F	1058.0	1104.5	18.0	15.0			
	1470	POTS			1058.0	1115.0					
	3000	POTS	40	F	1059.0	1114.0	16.0	51.0			
	2650	DWIN	41	F	1100.0	1101.0	15.0	70.0	20.0		
	930	BORD	41	F	1107.3	1108.1	1.7	31.0	2.0		
	3100	CRIM	1	S	1112.9	1114.0	2.0	23.0	7.0		
	930	BORD	41	F	1114.0	1114.8	1.0	30.0	2.0		
	204	IZMI	41	F	1114.5	1114.7	.5	750.0			
	9400	HUAN	21	GRF	1122.3E	1122.3U	30.2D	28.4	17.1		L
	9400	HUAN	1	S	1124.6	1125.6	2.6	23.6	7.9		L
	1470	POTS	40	F	1137.5	1141.3	13.0	34.0			
	650	GORK	4	S/F	1137.7	1140.4	5.1	54.0	13.0		
	3200	BERN	4	S/F	1139.5	1140.5	2.5	32.0			ONLY PAPER REC
	930	BORD	45	C	1139.6	1140.6	2.2	34.0	8.0		
	3100	CRIM	3	S	1139.6	1140.8	3.0	43.0	14.0		
	3000	POTS	4	S/F	1139.8	1140.8	3.2	59.0			
	2650	DWIN	4	S/F	1140.0	1141.0	2.0	50.0	20.0		
	9400	HUAN	1	S	1206.7	1208.6	3.3	3.2	1.6		0
	9400	HUAN	2	S/F	1241.8	1242.3	1.5	17.3	5.4		L
	9400	HUAN	21	GRF	1259.1	1312.6	30.8	11.0	6.9		L
	9400	HUAN	2	S/F	1300.0	1300.6	1.8	23.6	12.4		0
	9400	HUAN	2	S/F	1308.7	1309.3	3.5	20.5	10.2		0
	810	KRAK	41	F	1311.0	1312.6	4.0	45.0			
	930	BORD	41	F	1313.1	1313.6	.6	56.0	2.0		
	9400	HUAN	1	S	1320.7	1321.9	1.6	6.3	4.4		L
	810	KRAK	8	S	1353.9	1353.9	.2	40.0			
	430	KRAK	8	S	1357.5	1357.5	.2	230.0			
	810	KRAK	8	S	1357.5	1357.5	.2	83.0			
	808	ONDR	2	S/F	1404.7	1404.7	1.5	49.0	8.0		
	2800	OTTA	240	R	1405.0	1420.0	15.0	5.4			
	930	BORD	41	F	1414.7	1414.8	1.7	42.0	2.0		
	930	BORD	41	F	1421.1	1421.2	.6	17.0	2.0		
	2800	OTTA	20	GRF	1425.0	1450.0	40.0	5.0	2.6		
	9400	HUAN	23	GRF	1434.4	1449.0	136.5	33.1	16.2		LRL
	9500	POTS	23	GRF	1435.0	1441.8	25.0	48.0			
	9400	HUAN	3	S	1441.7	1442.3	1.4	34.6	17.0		R
	9400	HUAN	2	S/F	1621.2	1622.2	2.2	25.2	12.6		0
	2800	OTTA	22	GRF	1650.0	1702.0	30.0	3.6			
	9400	HUAN	1	S	1722.5	1724.0	4.8	4.8	4.3		0

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
12	9400	HUAN	1	S	1753.0	1753.7	2.0	8.1	4.5		0
	2800	OTTA	3	S	1759.0	1800.0	2.2	16.8	8.2		
	9400	HUAN	4	S/F	1759.2	1759.9	2.0	32.2	14.5		R
	2800	OTTA	30	PBI	1801.5	1801.5	15.0	4.0	2.0		
	9400	HUAN	1	S	1802.8	1803.6	1.6	12.9	7.1		L
	2800	OTTA	3	S	1803.0	1803.4	1.5	12.8	4.2		
	9400	HUAN	3	S	1805.3	1805.8	1.3	79.0	33.8		0
	2800	OTTA	240	R	1820.0	1830.0	10.0	3.6	1.8		
	9400	HUAN	1	S	1836.8	1837.3	1.8	6.4	5.2		0
	2800	OTTA	1	S	1900.0	1903.0	3.0	5.4	2.7		
	9400	HUAN	1	S	1921.4	1922.6	5.6	8.1	3.2		0
	9400	HUAN	1	S	2005.5	2006.3	2.3	12.9	5.3		L
	2695	PENT	1	S	2006.0	2006.3	2.0	4.4	1.6		
	2800	OTTA	4	S/F	2026.2	2026.8	3.0	31.0	10.4		
	9400	HUAN	4	S/F	2026.3	2027.0	3.0	43.5	21.6		R
	9400	HUAN	3	S	2043.7	2044.1	2.1	40.3	14.5		0
	2800	OTTA	2	S/F	2044.0	2044.2	1.5	9.8	3.3		
	2800	OTTA	21	GRF	2044.0	2115.0	135.0	7.2	3.6		
	9400	TYKW	20	GRF	2140.0U	2210.0U	70.0U	12.0U	6.0U		
	3750	TYKW	20	GRF	2140.0U	2210.0U	70.0U	6.0U	3.0U		
	2695	PENT	1A	S	2155.0	2156.5	2.5	3.6	2.0		
	2000	TYKW	45	C	2156.3	2156.8	.6	105.0	10.0		
	2695	PENT	8	S	2156.8	2156.8	.1	90.0			
	1000	TYKW	8	S	2300.8	2300.9	.2	4.0	1.0		
	1000	TYKW	8	S	2303.9	2304.0	.2	10.0	2.0		
	1000	TYKW	8	S	2319.8	2319.9	.2	5.0	1.5		
	2000	TYKW	8	S	2322.1	2322.2	.2	32.0	6.0		
	3750	TYKW	45	C	2323.0	2324.2	3.0	12.0	3.0		
	1000	TYKW	8	S	2323.4	2323.5	.2	9.0	2.0		
	2695	PENT	1	S	2323.5	2324.0	2.0	4.6	2.3		
	9400	TYKW	5	S	2327.0	2327.4	1.0	6.0	2.0		
	9400	TYKW	21	GRF	2330.0U	2335.0U	30.0U	8.0U	4.0U		INTERFERENCE
	1000	TYKW	5	S	2337.5	2337.9	1.0	3.0	1.0		
	1000	TYKW	42	SER	2341.0	2348.0	8.0	13.0	1.5		
	3750	TYKW	5	S	2343.5	2344.2	1.5	15.0	3.0		
	2695	PENT	8	S	2344.0	2344.2	.3	14.4			
	3750	TYKW	29	PBI	2345.0		5.0	3.0	1.5		
	2000	TYKW	21	GRF	2350.0	0002.0	40.0	1.5	0.7		
	3750	TYKW	21	GRF	2350.0	0010.0	45.0	5.0	3.0		
	3750	TYKW	5	S	2352.0	2353.3	6.0	14.0	3.0		
	1000	TYKW	45	C	2352.0	2353.4	3.0	157.0	11.0		
	9400	TYKW	5	S	2352.5	2353.0	1.5	4.0	1.5		
	2000	TYKW	5	S	2352.5	2353.4	2.5	12.0	3.0		
	2695	PENT	3	S	2353.0	2353.5	1.5	12.6	6.3		
	1415	MANI	8	S	2353.0	2353.6	1.0	104.0	34.7		
	606	MANI	1	S	2353.0	2353.6	1.0	7.2	2.4		
	3750	TYKW	5	S	2358.7	2359.1	1.0	2.0	0.7		
	2000	TYKW	5	S	2358.7	2359.1	1.0	3.0	1.0		
13	204	IZMI	44	NS	0600.0E		3600.0D	60.0			
	127	TORN	44	NS	0630.0E	0820.5	540.0D	430.0	148.0		V1
	33	UPIC	43	NS	0710.8	0711.1	384.7D				
	29	UPIC	43	NS	0711.1		384.4D				
	430	KRAK	44	NS	0725.0E		240.0D				
	536	ONDR	44	NS	0756.0E		284.0D	16.0	2.0		
	260	ONDR	44	NS	0756.0E	1334.7	427.0D	108.0	14.0		
	100	HIRA	44	NS	2040.0E	2212.0	680.0D	560.0	400.0		SR
	200	HIRA	44	NS	2040.0E	2247.0	680.0D	150.0	60.0		MR
	208	VORO	44	NS	2300.0E		240.0D		40.0		
	9400	TYKW	21	GRF	0002.0	0010.0	30.0	5.0	2.0		
	9400	TYKW	5	S	0012.5	0013.5	2.0	34.0	7.0		
	3750	TYKW	5	S	0012.5	0013.6	2.0	4.0	1.5		
	1000	TYKW	8	S	0016.3	0016.4	.2	11.0	2.0		
	9400	TYKW	28	PBE	0016.5	0017.7	4.0	7.0	3.0		
	2695	PENT	3	S	0020.5	0021.1	1.8	25.0	9.0		
	9400	TYKW	5	S	0020.5	0021.2	4.0	132.0	14.0		
	3750	TYKW	5	S	0020.5	0021.2	3.0	39.0	7.0		
	17000	NOBE	1	S	0020.6	0021.2	1.5	88.0			L
	2000	TYKW	5	S	0020.8	0021.2	2.0	13.0	3.0		
	1000	TYKW	8	S	0020.9	0021.0U	.4	180.0D	40.0D		
	8800	MANI	1	S	0021.3	0021.4	.3	94.0	31.3		
	2695	MANI	3	S	0021.3	0021.4	.3	15.5	5.2		
	1415	MANI	8	S	0021.3	0021.4	.3	84.0	28.0		
	4995	MANI	3	S	0021.3	0021.6	.3	43.1	14.4		
	9400	TYKW	5	S	0035.0	0035.5	2.0	4.0	1.5		
	3750	TYKW	45	C	0035.0	0035.8	2.0	5.0	2.5		
	2000	TYKW	5	S	0035.0	0035.9	2.0	3.0	1.5		
	9400	TYKW	21	GRF	0040.0	0055.0	40.0	6.0	3.0		
	3750	TYKW	21	GRF	0040.0	0109.5	45.0	7.0	3.0		
	9400	TYKW	5	S	0041.0	0041.7	1.5	4.0	1.5		
	9400	TYKW	45	C	0045.0	0050.7	10.0	14.0	3.0		
	2000	TYKW	21	GRF	0050.0	0100.0	30.0	1.5	0.7		
	2000	TYKW	8	S	0051.3	0051.4	.2	3.0	1.0		
	3750	TYKW	5	S	0052.7	0053.2	1.0	1.5	0.5		
	1000	TYKW	45	C	0053.1	0053.2	.4	34.0	5.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
13	9400	TYKW	5	S	0103.6	0104.0	1.0	12.0	3.0		
	9400	TYKW	5	S	0109.0	0109.5	5.0	4.0	1.0		
	3750	TYKW	5	S	0129.0	0130.2	4.0	3.0	1.0		
	9400	TYKW	5	S	0129.0	0130.5	3.0	4.0	1.5		
	2000	TYKW	45	C	0130.0	0130.2	1.0	4.0	1.0		
	3750	TYKW	21	GRF	0135.0	0414.0	280.0	14.0	7.0		
	2000	TYKW	21	GRF	0135.0	0414.0	280.0	3.0	1.5		
	3750	TYKW	5	S	0152.0	0152.2	.5	1.5	0.5		
	9400	TYKW	45	C	0155.0	0200.5	7.0	155.0	9.0		
	2000	TYKW	45	C	0155.0	0200.7	8.0	23.0	4.0		
	3750	TYKW	45	C	0157.0	0200.6	7.0	70.0	11.0		
	1000	TYKW	45	C	0159.2	0159.3	.3	68.0	6.0		
	17000	NOBE	3	S	0200.3	0200.5	1.0	145.0			R
	1000	TYKW	8	S	0200.4	0200.5	.2	170.0D	40.0D		
	4995	MANI	3	S	0201.4	0201.7	1.2	24.5	8.2		
	8800	MANI	3	S	0201.5	0201.7	1.1	126.1	42.0		
	2695	MANI	3	S	0201.5	0201.7	1.5	38.7	12.9		
	9400	TYKW	29	PBI	0202.0		7.0	4.0	2.0		
	2000	TYKW	29	PBI	0203.0		5.0	2.0	1.0		
	9400	TYKW	21	GRF	0211.0	0340.0	225.0	24.0	12.0		
	3750	TYKW	5	S	0212.0	0213.4	6.0	2.0	1.0		
	2000	TYKW	5	S	0212.0	0213.5	6.0	1.5	0.7		
	3750	TYKW	20	GRF	0220.0	0230.0	30.0	4.0	2.0		
	9400	TYKW	5	S	0229.0	0230.0	3.0	4.0	1.5		
	9400	TYKW	5	S	0250.0	0252.0	5.0	10.0	3.5		
	3750	TYKW	5	S	0250.0	0252.4	7.0	4.0	1.5		
	9400	TYKW	5	S	0303.0	0304.0U	1.0D	15.0D	8.0D		
	2000	TYKW	5	S	0303.0	0304.2U	7.0	17.0U	4.0D		
	1000	TYKW	5	S	0303.0	0305.7	6.0	20.0	5.0		
	3750	TYKW	45	C	0303.0	0305.7	5.0	29.0	6.0		
	17000	NOBE	7	C	0303.2	0305.6	2.9	82.0			0
	200	HIRA	46	C	0304.1	0304.4	2.0	360.0	120.0		WR
	100	HIRA	46	C	0304.2	0304.9	3.0	5300.0	1100.0		
	606	MANI	4	S/F	0304.5	0304.9	3.5	57.6	19.2		
	4995	MANI	3	S	0304.8	0306.9	3.7	61.3	20.4		
	2695	MANI	4	S/F	0304.8	0306.9	3.7	38.7	12.9		
	1415	MANI	4	S/F	0304.8	0307.0	4.2	30.6	10.2		
	8800	MANI	3	S	0305.0	0307.0	3.5	93.4	31.1		
	17000	NOBE	29	PBI	0306.1	0306.1	8.0	19.0			0
	9400	TYKW	29	PBI	0307.0E		10.0D	4.0D	2.0D		
	3750	TYKW	21	GRF	0324.0	0333.0	40.0	4.0	2.0		
	2000	TYKW	21	GRF	0324.0	0345.0	40.0	1.5	0.7		
	9400	TYKW	5	S	0324.4	0325.2	3.0	6.0	2.0		
	3750	TYKW	45	C	0324.5	0325.3	1.5	4.0	1.5		
	2000	TYKW	5	S	0325.0	0325.2	.7	3.0	1.0		
	9400	TYKW	5	S	0342.0	0344.8	5.0	14.0	4.0		
	1000	TYKW	45	C	0350.0	0449.2	140.0	26.0	6.0		
	9400	TYKW	21	GRF	0405.0	0430.0	75.0	8.0	4.0		
	9400	TYKW	5	S	0417.0	0419.4	5.0	40.0	12.0		
	3750	TYKW	45	C	0418.0	0419.0	3.0	15.0	6.0		
	2000	TYKW	5	S	0418.0	0419.2	5.0	14.0	4.0		
	17000	NOBE	27	RF	0418.1	0419.3	3.0	20.0			0
	4995	MANI	3	S	0419.5	0420.6	2.0	49.0	16.3		
	8800	MANI	3	S	0419.5	0420.6	2.0	28.0	9.3		
	1415	MANI	1	S	0420.0	0420.6	1.5	3.8	1.3		
	2695	MANI	3	S	0420.0	0420.6	1.5	34.8	11.6		
	3750	TYKW	30	PBI	0421.0		15.0	2.0	1.0		
	9400	TYKW	29	PBI	0422.0		5.0	4.0	2.0		
	3750	TYKW	5	S	0426.0	0427.0	3.0	11.0	2.0		
	2000	TYKW	5	S	0426.0	0427.1	3.0	6.0	1.5		
	3750	TYKW	5	S	0432.5	0433.0	1.5	3.0	1.0		
	3750	TYKW	45	C	0442.0	0449.2	10.0	35.0	8.0		
	9400	TYKW	45	C	0442.0	0449.2	10.0	33.0	5.0		
	2000	TYKW	45	C	0442.7	0443.0	1.5	15.0	2.0		
	2000	TYKW	45	C	0446.0	0449.4	5.0	4.0	2.0		
	9400	TYKW	29	PBI	0452.0		10.0	4.0			
	3750	TYKW	29	PBI	0452.0		20.0	4.0	2.0		
	9100	GORK	23	GRF	0500.0E	0949.5	420.0D	50.0			
	650	GORK	23	GRF	0500.0		420.0D	24.0			
	950	GORK	46	C	0708.8	0710.9	16.3	112.0D			
	950	GORK			0708.8	0714.9		450.0			
	950	GORK			0708.8	0723.0		152.0			
	1000	TYKW	45	C	0709.0	0709.1	.5	33.0	12.0		
	2650	DWIN	45	C	0710.0	0710.0	5.0	110.0	30.0		
	6100	KISV	46	C	0710.0	0711.0	13.0	110.0			
	3750	TYKW	45	C	0710.0	0711.0	11.0	105.0	16.0		
	9400	TYKW	45	C	0710.0	0711.0	12.0	137.0	32.0		
	6100	KISV			0710.0	0712.7		40.0			
	6100	KISV			0710.0	0718.2		21.0			
	200	HIRA	46	C	0710.0	0710.6	1.5	1400.0	240.0		0
	9500	POTS	4	S/F	0710.0	0710.7	13.0	119.0			
	9100	GORK	46	C	0710.0	0710.9	12.7	140.0			
	127	TORN	47	GB	0710.0	0710.9	2.3	1600.0	800.0		
	113	POTS	4	S/F	0710.0	0711.2	2.3	2900.0	750.0		III
	3000	POTS	4	S/F	0710.0	0711.4	13.0	107.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
13	9100	GORK		0710.0	0712.7		85.0			
	606	MANI	4 S/F	0710.0	0713.5	5.0	102.4	34.1		
	2950	GORK	46 C	0710.3	0710.9	7.3	102.0			
	3000	IZMI	7 C	0710.3	0711.0	5.0	170.0	50.0		
	100	HIRA	46 C	0710.3	0711.0	1.8	17000.0	1900.0		WR
	234	POTS	42 SER	0710.3	0711.2	4.7	19000.0	140.0		III
	650	GORK	46 C	0710.3	0711.2	4.3	27.0			
	650	GORK		0710.3	0712.5		84.0			
	9100	GORK		0710.3	0712.7		36.0			
	1000	TYKW	45 C	0710.4	0710.8	2.0	330.0	45.0		
	3100	CRIM	3 S	0710.4	0710.9	6.0	100.0	33.0		
	204	IZMI	7 C	0710.4	0711.0	1.5	1300.0	500.0		
	2000	TYKW	45 C	0710.5	0711.0	4.5	81.0	30.0		
	17000	NOBE	7 C	0710.6	0712.8	12.0	175.0			0
	1470	POTS	4 S/F	0711.0	0711.2	12.0	270.0			
	2695	MANI	4 S/F	0711.3	0712.0	3.7	108.4	36.1		
	1415	MANI	4 S/F	0711.3	0712.1	5.7	183.4	61.1		
	8800	MANI	4 S/F	0711.5	0712.0	4.5	84.1	28.0		
	4995	MANI	4 S/F	0711.5	0712.0	3.5	112.7	37.6		
	1000	TYKW	45 C	0712.4	0715.0	6.6	410.0	60.0		
	2000	TYKW	29 PBI	0715.0		15.0	6.0	3.0		
	2950	GORK	29 PBI	0717.8	0717.8		8.5			
	1000	TYKW	45 C	0719.0	0723.0	7.0	165.0	10.0		
	3750	TYKW	29 PBI	0721.0		15.0	6.0	2.0		
	9400	TYKW	29 PBI	0722.0		15.0	12.0	6.0		
	1470	POTS	40 F	0734.0	0739.0	7.0	4.0			
	6100	KISV	8 S	0820.0	0820.3	.5	7.0			
	6100	KISV	1 S	0822.5	0823.0	1.0	8.0			
	9500	POTS	3	0830.0	0830.5	1.5	27.0			
	6100	KISV	8 S	0830.2	0830.6	1.0	11.0			
	9100	GORK	3 S	0830.2	0830.6	1.8	33.0	15.0		
	3100	CRIM	41 F	0918.0	0918.8	3.0	16.0	5.0		
	930	BORD	41 F	0928.8	0928.9	.4	44.0	2.0		
	6100	KISV	27 RF	0941.0	0948.0	15.0	11.0			
	260	ONDR	46 C	0945.6	1002.3	25.0	165.0D	24.0		
	6100	KISV	8 S	1005.7	1005.9	1.0	19.0			
	6100	KISV	3 S	1034.0	1034.2	.5	6.0			
	930	BORD	41 F	1034.6	1035.5	1.4	89.0	2.0		
	810	KRAK	8 S	1034.7	1034.9	.9	94.0			
	930	BORD	8 S	1040.5	1040.5	.1	39.0	1.0		
	234	POTS	42 SER	1041.6	1059.0	27.0	625.0	5.0		
	430	KRAK	28 PRE	1046.2	1046.5	2.5	66.0			
	930	BORD	8 S	1049.5	1049.5	.1	24.0	1.0		
	430	KRAK	46 C	1054.2	1059.3	11.7	420.0	35.0		
	9100	GORK	3 S	1105.6	1105.9	2.8	32.0	15.0		
	430	KRAK	29 PBI	1106.4	1113.5	22.5	25.0	20.0		
	930	BORD	41 F	1108.3	1108.7	.4	31.0	2.0		
	6100	KISV	3 S	1114.6	1115.3	1.5	5.0			
	9400	HUAN	2 S/F	1119.1	1119.8	2.7	10.5	6.5		0
	810	KRAK	8 S	1134.4	1134.5	.2	15.0			
	9400	HUAN	20 GRF	1220.5	1223.0	9.5	14.0	7.8		0
	9400	HUAN	1 S	1236.7	1237.4	1.6	14.0	7.0		0
	810	KRAK	8 S	1253.8	1253.8	.2	75.0			
	9400	HUAN	2 S/F	1256.6	1257.3	1.7	12.3	6.3		0
	930	BORD	41 F	1258.7	1258.8	.2	56.0	2.0		
	536	ONDR	42 SER	1334.6	1411.6	37.0	49.0			
	430	KRAK	8 S	1334.7	1334.7	.4	120.0			
	234	POTS	4 S/F	1334.8	1335.0	.3	375.0	75.0		III
	9400	HUAN	21 GRF	1343.0	1349.5	23.8	12.3	5.4		0
	2650	DWIN	1 S	1400.0	1400.0	1.0	50.0	20.0		
	9400	HUAN	1 S	1400.2	1400.6	.9	8.8	3.5		0
	260	ONDR	4 S/F	1410.0		4.0	158.0D	135.0		
	234	POTS	4 S/F	1410.2	1410.7	3.5	1050.0	400.0		
	234	POTS	4 S/F	1420.7	1420.7	.2	575.0	200.0		
	9400	HUAN	22 GRF	1424.2	1443.2	53.5	10.5	4.6		L
	2800	OTTA	1A S	1424.6	1425.0	7.0	3.6	1.6		
	2800	OTTA	8 S	1428.8	1428.9	.3	4.6			
	9400	HUAN	1 S	1536.1	1537.1	2.0	21.0	10.8		0
	9400	HUAN	29 PBI	1538.1	1538.1	15.0	7.0	5.7		0
	2800	OTTA	3 S	1609.5	1609.9	1.0	17.0	4.4		
	9400	HUAN	8 S	1609.6	1609.9	1.0	150.8	43.1		0
	9400	HUAN	29 PBI	1610.6	1610.6	5.4	10.5	4.4		0
	9400	HUAN	22 GRF	1620.8	1629.7	20.2	8.8	2.9		0
	9400	HUAN	3 S	1809.1	1810.1	1.7	468.3	175.8		R
	9400	HUAN	30 PBI	1810.8	1810.8	38.4	82.4	41.5		R
	2800	OTTA	3 S	1815.0	1815.9	5.0	157.0	36.0		
	2800	OTTA	21 GRF	1815.0	1832.0	35.0	6.0	3.0		
	9400	HUAN	3 S	1815.3	1816.0	3.1	385.9	197.3		0
	2800	OTTA	1 S	1821.5	1823.0	4.0	4.0	2.0		
	2800	OTTA	45 C	1828.3	1829.0	2.0	13.6			
	2800	OTTA	3A S	1947.0	1954.0	10.2	18.4	6.2		
	2800	OTTA	240AR	1947.0	2050.0	63.0	7.0			
	2800	OTTA	40 F	1947.7	1950.2	50.0	57.0			
	9400	HUAN	23 GRF	1949.6	1955.7	36.4	14.0	4.6		0
	2695	PENT	1 S	2009.7	2010.0	2.0	3.4	1.7		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
13	9400	HUAN	8	S	2014.9	2015.2	1.1	38.6	19.6		L
	2695	PENT	8	S	2015.1	2015.2	.3	2.4	1.2		
	2800	OTTA	1	S	2043.0	2045.8	5.0	4.6	2.3		
	9400	HUAN	21	GRF	2112.0	2120.3	34.0	15.8	10.8		O
	1000	TYKW	45	C	2123.5	2123.8	.5	95.0	20.0		
	1000	TYKW	45	C	2124.0	2124.3	.5	85.0	15.0		
	1000	TYKW	45	C	2125.0	2125.6	1.5	190.0	27.0		
	200	HIRA	46	C	2125.0	2125.3	.7	990.0	560.0		O
	100	HIRA	46	C	2125.1	2125.4	1.3	5700.0	750.0		WR
	9400	HUAN	3	S	2125.2	2126.3	2.0	22.8	13.7		O
	9400	TYKW	45	C	2234.0U	2248.0	15.0D	140.0	35.0		RAIN
	1000	TYKW	45	C	2240.0	2241.2	4.0	9.0	1.0		
	2695	PENT	23	GRF	2240.0	2320.0	65.0	9.2			
	3750	TYKW	45	C	2243.0	2248.6	15.0	75.0	18.0		
	1000	TYKW	45	C	2244.0	2248.4	9.0	30.0	4.0		
	2000	TYKW	45	C	2244.0	2248.8	10.0	44.0	10.0		
	2695	PENT	1	S	2244.5	2245.0	1.5	9.6	4.4		
	2695	PENT	4	S/F	2247.0	2248.5	7.0	52.0	19.6		
	8800	MANI	4	S/F	2248.0	2248.9	3.0	81.3	27.1		
	2695	MANI	3	S	2248.5	2249.2	2.3	90.9	30.3		
	1415	MANI	3	S	2248.6	2248.9	1.9	23.1	7.7		
	1000	TYKW	45	C	2253.0	2258.5	10.0	121.0	22.0		
	2000	TYKW	30	PBI	2254.0		80.0	4.0	2.0		
	2000	TYKW	5	S	2256.0	2256.7	2.0	4.0	2.0		
	9400	TYKW	30	PBI	2258.0		80.0	19.0	10.0		
	3750	TYKW	30	PBI	2258.0		70.0	13.0	6.0		
	208	VORO	46	C	2303.0	2306.0	10.0	120.0D			
	1000	TYKW	45	C	2303.0	2307.2	21.0	77.0	1.0		
	208	VORO			2303.0	2311.0		120.0D			
	500	HIRA	48	C	2304.0	2306.6	23.0	11000.0	1000.0		SR
	2000	TYKW	5	S	2304.0	2307.2		170.0	43.0		
	3750	TYKW	5	S	2304.0	2307.2	6.0	260.0	50.0		
	2695	PENT	4	S/F	2304.0	2307.3	13.0	226.0	28.0		
	606	MANI	4	S/F	2304.0	2308.3	5.5	48.4	16.1		
	1415	MANI	3	S	2305.0	2307.6	5.0	77.1	25.7		
	100	HIRA	46	C	2305.8	2307.9	2.8	13000.0	1600.0		SR
	9400	TYKW	5	S	2306.0	2307.2	4.0	154.0	40.0		
	200	HIRA	46	C	2306.6	2307.4	1.6	420.0	170.0		MR
	8800	MANI	3	S	2306.9	2307.5	2.6	140.9	47.0		
	4995	MANI	3	S	2306.9	2307.6	2.0	23.7	7.9		
	2695	MANI	3	S	2306.9	2308.0	2.8	187.4	62.5		
	3750	TYKW	30	PBI	2310.0		350.0	20.0	6.0		
	9400	TYKW	30	PBI	2310.0		34.0	12.0	4.0		
	9400	TYKW	5	S	2311.0	2311.7	3.0	8.0	3.0		
	3750	TYKW	5	S	2311.0	2311.8	4.0	19.0	7.0		
	3750	TYKW	5	S	2323.0	2326.0	15.0	11.0	4.0		
	9400	TYKW	5	S	2323.0	2326.0	10.0	10.0	4.0		
	1000	TYKW	45	C	2339.0	2340.2	2.0	62.0	3.5		
	3750	TYKW	5	S	2339.5	2340.3	2.5	9.0	2.0		
	9400	TYKW	5	S	2340.0	2340.2	1.5	10.0	3.0		
	2000	TYKW	5	S	2340.0	2340.3	1.0	3.5	1.0		
	1000	TYKW	45	C	2341.0	2342.7	3.0	26.0	3.5		
	9400	TYKW	5	S	2345.5	2346.3	2.5	17.0	4.0		
14	33	UPIC	44	NS	0530.0E	1238.8U	529.9D				
	204	IZMI	44	NS	0600.0E		360.0D	50.0			
	127	TORN	44	NS	0630.0E		540.0D		210.0		VO
	29	UPIC	43	NS	0707.5	0911.5	426.4D				
	260	ONDR	44	NS	0720.0E		450.0D	88.0	6.0		
	536	ONDR	43	NS	0931.0	1355.5	300.0D	72.0			
	100	HIRA	44	NS	2043.0E	0505.0	675.0D	4000.0	640.0		SR
	200	HIRA	44	NS	2043.0E	2322.0	675.0D	55.0	20.0		MR
	208	VORO	44	NS	2300.0E		240.0D		16.0		
	2000	TYKW	21	GRF	0020.0	0045.0	140.0	3.5	1.5		
	3750	TYKW	21	GRF	0020.0	0116.0	140.0	14.0	6.0		
	9400	TYKW	45	C	0110.0	0121.0	15.0	11.0	6.0		
	9400	TYKW	30	PBI	0125.0		25.0	8.0	3.0		
	9400	TYKW	5	S	0134.0	0135.3	4.0	26.0	6.0		
	9400	TYKW	5	S	0144.0	0145.0	3.0	4.0	1.5		
	9400	TYKW	5	S	0204.0	0211.9	9.0	12.0	6.0		
	2000	TYKW	20	GRF	0205.0	0220.0	35.0	2.0	1.0		
	3750	TYKW	20	GRF	0205.0	0220.0	35.0	4.0	2.0		
	1000	TYKW	45	C	0212.2	0212.4	.5	30.0	10.0		
	9400	TYKW	29	PBI	0213.0		30.0	6.0	3.0		
	1000	TYKW	45	C	0213.6	0213.7	.4	11.0	4.0		
	1000	TYKW	45	C	0215.9	0216.1	.4	190.0	40.0		
	1000	TYKW	45	C	0231.0	0231.9	1.5	44.0	6.0		
	9400	TYKW	5	S	0256.5	0257.8	3.5	13.0	4.0		
	9400	TYKW	5	S	0316.5	0316.9	1.5	7.0	2.0		
	2000	TYKW	5	S	0316.6	0316.9	1.5	2.0	0.7		
	1000	TYKW	5	S	0316.7	0317.0	1.0	1.5	0.5		
	1000	TYKW	8	S	0328.5	0328.6	.2	8.0	2.0		
	3750	TYKW	5	S	0329.0	0330.3	2.0	9.0	3.0		
	9400	TYKW	28	PRE	0329.0	0330.3	21.0	11.0	3.0		
	1000	TYKW	45	C	0330.0	0330.1	.4	9.0	3.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
14	2000	TYKW	5	S	0330.0	0330.3	1.0	7.0	3.0		
	2000	TYKW	30	PBI	0331.0		8.0	1.0	0.5		
	3750	TYKW	30	PBI	0331.0		15.0	3.0	1.5		
	3750	TYKW	5	S	0331.5	0332.6	3.5	5.0	1.5		
	2000	TYKW	5	S	0332.0	0332.5	1.0	1.5	0.7		
	3750	TYKW	45	C	0350.0	0351.5	7.0	55.0	12.0		
	9400	TYKW	45	C	0350.0	0351.6	7.0	100.0	24.0		
	1000	TYKW	45	C	0350.0	0352.5	7.0	26.0	5.0		
	17000	NOBE	7	C	0350.0	0351.4	89.0	50.0		L	
	4995	MANI	3	S	0350.3	0351.0	2.7	53.7	17.9		
	8800	MANI	3	S	0350.3	0351.2	1.4	96.8	32.3		
	606	MANI	4	S/F	0350.4	0350.5	1.3	13.3	4.4		
	1415	MANI	4	S/F	0350.5	0351.2	4.3	47.6	15.9		
	2695	MANI	4	S/F	0350.5	0351.2	5.4	55.4	18.5		
	2000	TYKW	45	C	0350.5	0354.1	6.5	49.0	13.0		
	3750	TYKW	30	PBI	0357.0		120.0	6.0	3.0		
	9400	TYKW	30	PBI	0357.0		120.0	14.0	7.0		
	1000	TYKW	30	PBI	0357.0		10.0	2.5	1.5		
	2000	TYKW	30	PBI	0357.0		80.0	2.0	1.0		
	9400	TYKW	45	C	0400.0	0405.5	7.0	30.0	13.0		
	2000	TYKW	45	C	0400.0	0405.6	7.0	23.0	3.5		
	3750	TYKW	45	C	0400.0	0405.6	7.0	13.0	5.0		
	1000	TYKW	45	C	0401.5	0402.0	3.5	78.0	4.0		
	9400	TYKW	30	PBI	0407.0		80.0	4.0	2.0		
	3750	TYKW	30	PBI	0407.0		65.0	3.0	1.5		
	9400	TYKW	5	S	0409.0	0411.0	4.0	6.0	2.5		
	3750	TYKW	28	PRE	0415.0	0421.5	6.5	7.0	3.0		
	4995	MANI	3	S	0421.3	0421.7	1.1	100.7	33.6		
	8800	MANI	3	S	0421.3	0421.8	1.1	72.6	24.2		
	2695	MANI	3	S	0421.3	0421.8	1.1	123.5	41.2		
	9400	TYKW	45	C	0421.5	0422.2	23.5	56.0	18.0		
	3750	TYKW	45	C	0421.5	0422.3	10.5	96.0	20.0		
	2000	TYKW	45	C	0421.5	0422.4	2.5	14.0	2.5		
	3750	TYKW	30	PBI	0432.0		40.0	9.0	4.0		
	9100	GORK	23	GRF	0435.0E		445.0D				
	9400	TYKW	30	PBI	0445.0		40.0	6.0	4.0		
	9400	TYKW	5	S	0454.0	0454.6	4.0	86.0	20.0		
	9100	GORK	4	S/F	0454.0	0454.1	1.2	86.0			
	17000	NOBE	1	S	0454.2	0454.6	1.5	27.0		0	
	9400	TYKW	5	S	0501.4	0501.7	2.0	15.0	5.0		
	3750	TYKW	5	S	0502.0	0502.2	1.0	2.0	0.7		
	3750	TYKW	5	S	0504.5	0505.7	5.5	10.0	3.5		
	9400	TYKW	45	C	0504.5	0506.0	9.0	14.0	6.0		
	2000	TYKW	5	S	0505.0	0505.7	5.0	5.0	2.0		
	2950	GORK	3	S	0505.0	0505.5	3.2	12.0			
	3750	TYKW	20	GRF	0514.0	0525.0	40.0	5.0	2.5		
	9400	TYKW	5	S	0534.0	0535.2	7.0	18.0	5.0		
	9100	GORK	4	S/F	0534.4	0535.0	1.6	46.0			
	9100	GORK	2	S/F	0551.9	0552.1	.7	26.0			
	9400	TYKW	5	S	0552.0	0552.1	.7	27.0	12.0		
	9400	TYKW	5	S	0603.0	0603.4	1.0D	5.0	3.0D		
	2000	TYKW	5	S	0603.0	0603.4	1.0	50.0	10.0		
	3750	TYKW	45	C	0615.0	0636.2	25.0	13.0	6.0		
	9400	TYKW	28	PRE	0616.0	0617.0	10.5	4.0	2.0		
	2000	TYKW	45	C	0620.0	0634.4	20.0	5.0	2.0		
	6100	KISV	8	S	0626.4	0626.7	1.0	8.0			
	9400	TYKW	45	C	0626.5	0636.8	13.5	21.0	11.0		
	1000	TYKW	5	S	0629.0	0629.4	1.0	9.0	2.5		
	650	GORK	4	S/F	0629.1	0629.4U	.7	22.0D			
	2950	GORK	1	S	0631.2	0634.2	6.7	7.6			
	2000	TYKW	29	PBI	0640.0		25.0D	3.0	2.0D		
	3750	TYKW	30	PBI	0640.0		25.0D	7.0	4.0D		
	9400	TYKW	30	PBI	0640.0		25.0D	7.0	5.0D		
	3750	TYKW	5	S	0641.0	0642.4	3.0	4.0	1.0		
	9400	TYKW	5	S	0642.0	0642.3	2.5	11.0	4.0		
	9500	POTS	3	S	0655.0	0656.9	30.0	14.0			
	9400	TYKW	5	S	0656.5	0656.8	2.5	9.0	3.0		
	6100	KISV	3	S	0656.6	0656.9	.6	7.0			
	2950	GORK	21	GRF	0716.0	0728.4	20.1	3.5			
	9100	GORK	2	S/F	0725.5	0726.9	2.9	22.0			
	6100	KISV	4	S/F	0725.6	0727.0	3.0	13.0			
	9500	POTS	42	SER	0726.0	0802.5	58.0	29.0			
	5200	BERN	4	S/F	0726.5	0726.8	1.5	14.0			ONLY PAPER REC
	3200	BERN	4	S/F	0726.5	0726.8	1.5	8.0			ONLY PAPER REC
	1470	POTS	1	S	0726.5	0727.0	1.5	2.4			
	3000	POTS	42	SER	0726.5	0800.5	46.0	10.0			
	2950	GORK	1	S	0726.6	0727.0	1.2	8.3			
	2650	DWIN	1	S	0727.0	0727.0	1.0	15.0	5.0		
	6100	KISV	3	S	0739.5	0741.4	4.0	13.0			
	9100	GORK	1	S	0740.1	0740.9	2.3	15.0	7.0		
	234	POTS	8	S	0754.8	0754.8	.3	480.0	160.0		
	6100	KISV	27	RF	0800.0	0802.5	12.0	8.0			
	9500	POTS	42	SER	0912.0	0926.2	33.0	26.0			
	430	KRAK	42	SER	0916.4	0940.4	46.5	390.0			
	430	KRAK			0916.4	0954.9		160.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
14	5200	BERN	1	S	0925.7	0926.2	1.0	9.0			ONLY PAPER REC
	9100	GORK	5	S	0925.8	0926.2	1.0	27.0	14.0		
	5200	BERN	1	S	0940.6	0940.8	1.0	12.0			ONLY PAPER REC
	9100	GORK	4	S/F	0940.7	0941.1	1.0	56.0			
	6100	KISV	8	S	0940.8	0941.0	1.0	10.0			
	9500	POTS	23	GRF	1010.0	1100.0	80.0	34.0			
	6100	KISV	1	S	1013.2	1013.4	.5	5.0			
	6100	KISV	27	RF	1030.5	1031.0	6.0	7.0			
	5200	BERN	1	S	1041.0	1041.3	1.5	12.0			ONLY PAPER REC
	6100	KISV	3	S	1041.1	1041.6	1.0	7.0			
	430	KRAK	42	SER	1052.0	1111.2	114.0	51.0			
	430	KRAK			1052.0	1233.1		220.0			
	2950	GORK	20	GRF	1112.0	1113.8	12.7	7.7			
	1470	POTS	8	S	1113.0	1113.5	1.0	11.0			
	9400	HUAN	20	GRF	1114.6	1120.2	14.0	9.9	3.5		0
	810	KRAK	8	S	1152.1	1152.2	.2	30.0			
	9400	HUAN	20	GRF	1212.9	1222.6	13.3	6.6	4.7		0
	2650	DWIN	1	S	1235.0	1235.0	1.0	12.0	4.0		
	2800	OTTA	8	S	1235.2	1235.3	.8	7.2			
	9400	HUAN	21	GRF	1250.7	1313.5	53.1	9.9	4.4		L
	430	KRAK	42	SER	1303.5	1310.8	14.2	220.0	18.0		
	430	KRAK			1303.5	1315.8		230.0			
	9500	POTS	22	GRF	1304.0	1304.5	36.0	17.0			
	2800	OTTA	21	GRF	1304.0	1340.0	65.0	6.6	4.0		
	5200	BERN	22	GRF	1304.1	1304.5	16.0	22.0			ONLY PAPER REC
	3200	BERN	22	GRF	1304.1	1313.1	16.0	8.0			ONLY PAPER REC
	2800	OTTA	1	S	1304.3	1305.0	1.5	2.2	1.1		
	2800	OTTA	1	S	1308.0	1308.3	1.0	5.0	2.0		
	2800	OTTA	1	S	1313.0	1313.3	1.5	3.8	2.0		
	9400	HUAN	1	S	1323.2	1323.7	1.2	13.2	7.2		0
	2800	OTTA	8	S	1324.8	1325.0	.5	2.2			
	9400	HUAN	2	S/F	1324.8	1325.1	.7	5.8	5.4		0
	2800	OTTA	1	S	1326.5	1327.0	1.3	3.4	1.7		
	9400	HUAN	1	S	1326.6	1327.3	1.5	4.9	4.0		L
	9400	HUAN	1	S	1330.2	1330.9	1.7	8.2	4.9		0
	810	KRAK	40	F	1330.3	1331.8	3.6	27.0			
	430	KRAK	46	C	1350.5	1354.6	15.2	370.0	27.0		
	430	KRAK			1350.5	1359.9		220.0			
	1470	POTS	42	SER	1355.0	1401.9	12.0	57.0			
	810	KRAK	40	F	1355.6	1355.8	4.0	37.0			
	810	KRAK			1355.6	1359.8		43.0			
	2800	OTTA	1	S	1355.8	1356.5	2.2	2.2			
	2800	OTTA	21	GRF	1442.0	1448.0	30.0	10.0	4.6		
	3200	BERN	46	C	1442.5	1442.7	6.0	32.0			ONLY PAPER REC
	5200	BERN	46	C	1442.5	1442.7	2.5D	37.0D			ONLY PAPER REC
	9500	POTS	4	S/F	1442.5	1442.9	4.0	42.0			
	9400	HUAN	4	S/F	1442.7	1442.9	3.4	49.4	17.4		L
	2800	OTTA	3	S	1442.8	1443.0	3.2	41.0	10.2		
	1470	POTS	8	S	1442.8	1443.0	.4	34.0			
	3000	POTS	3	S	1442.9	1443.0	1.1	33.0			
	9400	HUAN	29	PBI	1446.1	1446.1	60.1	6.6	4.5		0
	2650	DWIN	1	S	1448.0	1448.0	3.0	30.0	10.0		
	2800	OTTA	8	S	1557.7	1557.8	.4	3.4			
	2800	OTTA	240	AR	1630.0	1650.0	20.0	4.4	2.4		
	9400	HUAN	23	GRF	1640.7	1720.8	116.6	69.2	37.4		L
	2800	OTTA	4	S/F	1643.5	1644.4	4.5	105.0	24.0		
	9400	HUAN	4	S/F	1643.8	1644.4	1.5	117.0	39.3		L
	2695	PENT	47	GB	1704.0	1706.0	8.0	670.0	196.0		
	9400	HUAN	47	GB	1704.0	1706.8	7.0	2719.0	932.8		L
	2800	OTTA	30	PBI	1712.0	1712.0	88.0	11.0	5.5		
	2800	OTTA	40	F	1718.5	1720.0	3.5	6.2			
	2800	OTTA	1	S	1724.5	1726.0	7.0	6.2	2.8		
	9400	HUAN	3	S	1806.6	1807.1	1.4	65.9	35.3		L
	2800	OTTA	8	S	1806.7	1806.9	.8	3.4	1.7		
	9400	HUAN	2	S/F	1852.5	1853.4	1.6	21.4	8.5		L
	2800	OTTA	21	GRF	1853.0	1904.0	80.0	6.8	3.4		
	2800	OTTA	3	S	1857.5	1859.5	4.5	12.0	4.0		
	9400	HUAN	1	S	1857.8	1859.6	3.0	9.9	5.5		0
	9400	HUAN	8	S	1918.6	1918.8	1.0	29.7	8.2		0
	2800	OTTA	8	S	1918.9	1919.0	.5	3.8	1.9		
	9400	HUAN	2	S/F	1955.2	1956.7	3.6	16.5	8.8		L
	2800	OTTA	2	S/F	1955.5	1957.0	4.5	7.6	3.7		
	2800	OTTA	21	GRF	2043.0	2100.0	30.0	4.8			
	2800	OTTA	1	S	2046.7	2047.3	1.3	7.2	3.6		
	2800	OTTA	3	S	2053.7	2054.0	2.0	31.0	7.8		
	2000	TYKW	5	S	2147.0	2148.3	5.0U	31.0U	9.0U		
	9400	TYKW	5	S	2147.0	2148.3	5.0U	19.0U	8.0U		
	2000	TYKW	5	S	2147.0	2148.4	5.0U	17.0U	6.0U		
	3750	TYKW	5	S	2147.0	2148.5	5.0U	34.0U	11.0U		
	2800	OTTA	3	S	2147.2	2148.3	5.0	45.0	14.0		
	9400	HUAN	1	S	2147.4	2148.3	3.6	19.8	11.5		L
	1000	TYKW	5	S	2153.0	2153.2	.5	6.0	2.0		
	9400	TYKW	21	GRF	2245.0	2315.0	65.0	13.0	4.0		
	2000	TYKW	21	GRF	2250.0	2315.0	60.0	3.0	1.5		
	3750	TYKW	21	GRF	2250.0	2315.0	60.0	7.0	3.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
14	2000	TYKW	5	S	2257.0	2257.5	1.0	5.0	2.0		
	3750	TYKW	45	C	2300.0	2301.5	3.0	14.0	4.0		
	9400	TYKW	45	C	2300.0	2301.5	10.0	20.0	4.0		
	2000	TYKW	45	C	2300.0	2302.0	4.0	18.0	3.0		
	1000	TYKW	45	C	2300.0	2302.1	3.0	23.0	3.0		
	2695	PENT	2	S/F	2301.0	2301.5	2.0	9.6	4.8		
	3750	TYKW	29	PBI	2303.0		7.0	2.0	1.0		
	1000	TYKW	20	GRF	2305.0	2315.0	30.0	4.0	2.0		
	9400	TYKW	45	C	2330.5	2331.1	1.5	30.0	9.0		
15	200	GORK	44	NS	0550.0E		367.0D		10.0		
	204	IZMI	44	NS	0600.0E		360.0D	50.0			
	127	TORN	44	NS	0630.0E		510.0D		72.0		V1
	33	UPIC	43	NS	0642.0		469.0D				
	29	UPIC	43	NS	0656.9	0941.5	454.1D				
	260	ONDR	44	NS	0720.0E	0933.7	455.0D	155.0	8.0		
	536	ONDR	43	NS	0849.0		316.0D	52.0			
	100	HIRA	44	NS	2044.0E	2205.0	670.0D	40.0	10.0		SR
	200	HIRA	44	NS	2044.0E	2356.0	670.0D	30.0	20.0		O
	208	VORO	44	NS	2300.0E		240.0D		19.0		
	9400	TYKW	20	GRF	0001.0	0003.0	50.0	6.0	2.0		
	2000	TYKW	20	GRF	0001.0	0003.0	45.0	3.0	1.5		
	3750	TYKW	21	GRF	0003.0E	0020.0	45.0D	3.0	1.5D		
	3750	TYKW	5	S	0005.0	0005.3	1.0	5.0	1.5		
	3750	TYKW	5	S	0032.9	0033.2	2.0	5.0	2.0		
	1000	TYKW	45	C	0053.6	0054.0	.7	15.0	4.0		
	3750	TYKW	5	S	0053.9	0054.0	.6	15.0	3.0		
	9400	TYKW	5	S	0054.7	0055.0	1.0	12.0	4.0		
	9400	TYKW	5	S	0057.0	0100.0	15.0	4.0	2.0		
	3750	TYKW	5	S	0057.0	0102.0	15.0	2.0	1.0		
	9400	TYKW	5	S	0138.0	0138.4	1.0	8.0	2.5		
	2000	TYKW	28	PRE	0226.0	0243.5	54.0	5.0	2.0		
	1000	TYKW	8	S	0231.2	0231.4	.3	8.0	2.0		
	3750	TYKW	5	S	0233.0	0235.0	7.0	3.0	1.5		
	1000	TYKW	42	SER	0234.0	0234.3	1.5	14.0	1.0		
	9400	TYKW	28	PRE	0234.0	0250.4	43.0	26.0	6.0		
	1000	TYKW	45	C	0237.0	0245.2	20.0	6.0	2.0		
	3750	TYKW	5	S	0242.0	0243.5	6.0	6.0	2.0		
	9400	TYKW	45	C	0243.0	0243.5	5.0	11.0	2.5		
	17000	NOBE	7	C	0248.8	0250.5	298.0D	49.0			L
	17000	NOBE			0248.8	0324.6		99.0			L
	17000	NOBE			0248.8	0355.8		43.0			L
	3750	TYKW	28	PRE	0249.0	0250.4	31.0	11.0	6.0		
	2000	TYKW	45	C	0249.5	0250.7	2.5D	34.0	5.0D		
	1000	TYKW	45	C	0258.0	0311.0	16.0	5.0	1.5		
	9400	TYKW	45	C	0317.0	0324.6	12.0	110.0	45.0		
	2000	TYKW	45	C	0320.0	0324.6	9.0	22.0	9.0		
	3750	TYKW	5	S	0320.0	0324.7	9.0	56.0	30.0		
	1000	TYKW			0322.0	0323.8		8.0			
	1000	TYKW	45	C	0322.0	0326.9	6.0	8.0	3.0		
	1415	MANI	3	S	0324.5	0326.5	3.0	10.3	3.4		
	2695	MANI	3	S	0325.7	0327.0	4.0	17.6	5.9		
	8800	MANI	3	S	0325.8	0328.0	5.0	97.4	32.5		
	4995	MANI	3	S	0325.9	0328.0	5.0	44.6	14.9		
	9400	TYKW	30	PBI	0329.0		210.0	50.0	23.0		
	2000	TYKW	30	PBI	0329.0		180.0	9.0	4.0		
	3750	TYKW	30	PBI	0329.0		210.0	30.0	13.0		
	3750	TYKW	5	S	0340.0	0340.6	2.0	6.0	3.0		
	2000	TYKW	5	S	0340.0	0340.6	5.0	8.0	2.5		
	606	MANI	4	S/F	0341.2	0341.8	1.8	85.5	28.5		
	1415	MANI	3	S	0341.4	0341.6	1.6	25.7	8.6		
	9400	TYKW	5	S	0350.0	0355.7	7.0	45.0	9.0		
	3750	TYKW	5	S	0350.0	0356.0	20.0	4.0	1.5		
	9400	TYKW	29	PBI	0357.0		15.0	13.0	6.0		
	606	MANI	47	GB	0412.5	0445.7	49.0	737.0	245.7		
	9400	TYKW	45	C	0416.0	0416.4	4.0	37.0	10.0		
	200	HIRA	46	C	0416.0	0416.1	1.1	720.0	100.0		O
	3750	TYKW	5	S	0416.2	0416.5	.5	60.0	15.0		
	3750	TYKW	29	PBI	0416.7		15.0	4.0	2.0		
	9400	TYKW	29	PBI	0420.0		15.0	8.0	4.0		
	1000	TYKW	28	PRE	0420.0	0441.2	23.0	12.0	4.0		
	9100	GORK	23	GRF	0437.0E		136.0D				
	2950	GORK	21	GRF	0438.0E		450.0D				
	9400	TYKW	28	PRE	0440.0	0441.0	3.0	8.0	5.0		
	3750	TYKW	28	PRE	0440.0	0443.0	3.0	4.0	2.0		
	2000	TYKW	28	PRE	0440.0	0443.0	3.0	2.0	1.0		
	100	HIRA	46	C	0440.3	0444.5	6.0	90000.0	9000.0		MR
	500	HIRA	46	C	0442.3	0443.5	5.5	2200.0	500.0		SR
	950	GORK	4	S/F	0442.7	0444.0	7.5	230.0			
	200	HIRA	46	C	0442.9	0444.0	67.0	1300.0	80.0		WR
	9100	GORK	4	S/F	0442.9	0444.3	2.4	2500.0			
	650	GORK	4	S/F	0442.9	0444.5	4.1	50.0			
	200	HIRA			0442.9	0450.6		420.0			MR
	200	HIRA			0442.9	0504.0		270.0			MR
	35000	NAGO	47	GB	0443.0	0444.0	2.0	590.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
15	3750	TYKW	47	GB	0443.0	0444.1	12.0	1610.0	130.0		
	9400	TYKW	47	GB	0443.0	0444.1	12.0	5340.0	330.0		
	2000	TYKW	47	GB	0443.0	0444.1	6.0	700.0	110.0		
	1000	TYKW	45	C	0443.0	0444.1	10.0	335.0	40.0		
	2950	GORK	3	S	0443.0	0444.4	2.0	770.0			
	17000	NOBE	47	GB	0443.4	0444.1	4.6	4500.0			L
	1415	MANI	47	GB	0444.0	0445.1	5.0	573.1	191.0		
	2695	MANI	47	GB	0444.0	0445.1	4.0	1400.0D	467.0D		
	4995	MANI	47	GB	0444.0	0445.2	5.5	4500.0D	1500.0D		
	8800	MANI	47	GB	0444.0	0445.2	5.0	9600.0D	3200.0D		
	17000	NOBE	29	PBI	0448.0	0448.0	15.0	20.0			L
	2000	TYKW	29	PBI	0449.0		30.0	10.0	3.0		
	1000	TYKW	30	PBI	0453.0		85.0	4.0	2.0		
	3750	TYKW	29	PBI	0455.0		35.0	12.0	3.0		
	9400	TYKW	29	PBI	0455.0		35.0	20.0	7.0		
	1000	TYKW	28	PRE	0517.0	0552.4	36.0	31.0	6.0		
	950	GORK	22	GRF	0518.0	0532.2	38.0	13.0			
	650	GORK	23	GRF	0518.0E	0535.1	462.0D	3.3			
	9400	TYKW	28	PRE	0551.0	0553.0	2.0	11.0	5.0		
	100	HIRA	46	C	0551.6	0554.8	7.0	5000.0	1200.0		MR
	950	GORK	46	C	0551.7	0553.6	4.5	93.0			
	950	GORK			0551.7	0554.1		305.0			
	3750	TYKW	45	C	0552.0	0555.8	7.0	270.0	85.0		
	9100	GORK	46	C	0552.0	0554.3	6.0	480.0			
	9100	GORK			0552.0	0555.7		730.0			
	2000	TYKW	45	C	0553.0	0554.1	8.0	110.0	25.0		
	1000	TYKW	47	GB	0553.0	0554.1	5.0	1160.0	70.0		
	9400	TYKW	47	GB	0553.0	0555.9	7.0	750.0	160.0		
	35000	NAGO	20	GRF	0553.0	0556.0	12.0	67.0			
	650	GORK	4	S/F	0553.0	0553.3U	3.1	180.0			
	2950	GORK	45	C	0553.0	0554.3	3.8	44.0			
	1415	MANI	47	GB	0553.0	0555.3	5.0	802.8	267.6		
	4995	MANI	47	GB	0553.0	0555.5	5.0	623.7	207.9		
	2950	GORK			0553.0	0555.8		56.0			
	17000	NOBE	7	C	0553.2	0555.9	4.3	523.0			L
	8800	MANI	47	GB	0553.5	0557.0	5.5	1082.0	360.7		
	2695	MANI	4	S/F	0553.5	0557.0	5.5	293.5	97.8		
	606	MANI	4	S/F	0554.0	0556.3	4.5	236.6	78.9		
	200	HIRA	8	S	0555.0	0555.1	.4	700.0			O
	113	POTS	42	SER	0555.5	0555.6	3.3	560.0	20.0		III
	234	POTS	42	SER	0555.8	0556.0	3.0	500.0	20.0		III
	17000	NOBE	29	PBI	0557.5	0557.5	25.0	30.0			L
	3750	TYKW	29	PBI	0559.0		25.0	12.0	5.0		
	9400	TYKW	29	PBI	0600.0		35.0	29.0	11.0		
	2000	TYKW	29	PBI	0601.0		15.0	4.0	2.0		
	950	GORK	22	GRF	0615.8	0626.6	31.0	9.0			
	1000	TYKW	45	C	0621.0	0625.2	16.0	14.0	6.0		
	3200	BERN	4	S/F	0637.7	0638.5	13.0	231.0			ONLY PAPER REC
	5200	BERN	4	S/F	0637.7	0638.5	5.0D	242.0			ONLY PAPER REC
	9500	POTS			0638.0E	0638.5	15.0D	235.0			
	3000	POTS			0638.0E	0638.5	12.0D	840.0			
	9400	TYKW	5	S	0638.0	0638.7	4.0	300.0	65.0		
	3750	TYKW	45	C	0638.0	0638.8	8.0	415.0	85.0		
	2000	TYKW	45	C	0638.0	0639.0	10.0	226.0	55.0		
	1470	POTS			0638.0E	0641.7	15.0D	95.0			
	1000	TYKW	45	C	0638.0	0641.9	5.0	370.0	45.0		
	3000	IZMI	45	C	0638.0	0638.8	6.8	560.0	235.0		
	950	GORK	46	C	0638.0	0639.0	4.2	150.0			
	950	GORK			0638.0	0642.0		177.0			
	9100	GORK	4	S/F	0638.1	0638.6	2.0	330.0			
	2950	GORK	45	C	0638.1	0638.8	5.9	99.0			
	2950	GORK			0638.1	0642.0		16.0			
	17000	NOBE	1	S	0638.3	0638.7	3.0	80.0			R
	8800	MANI	47	GB	0639.0	0640.0	6.0	541.0	180.3		
	1415	MANI	4	S/F	0639.0	0642.8	11.0	457.5	152.5		
	606	MANI	4	S/F	0639.0	0642.8	6.0	130.1	43.4		
	2695	MANI	3	S	0639.2	0640.0	8.8	498.9	166.3		
	4995	MANI	47	GB	0639.3	0639.8	6.7	546.5	182.2		
	9400	TYKW	29	PBI	0642.0		5.0	11.0	4.0		
	1000	TYKW	29	PBI	0643.0		10.0	16.0	8.0		
	3750	TYKW	29	PBI	0646.0		10.0	20.0	8.0		
	2000	TYKW	29	PBI	0648.0		10.0	14.0	5.0		
	1470	POTS	23	GRF	0710.0	0737.8	40.0	23.0			
	950	GORK	22	GRF	0718.0	0757.5	54.0	22.0			
	9100	GORK	23	GRF	0727.0		270.0				
	2650	DWIN	2	S/F	0729.0	0731.0	5.0	20.0	10.0		
	930	BORD	40	F	0733.0	0737.0	31.0	28.0	4.0		
	950	GORK	3	S	0736.3	0737.1	1.9	30.0			
	430	KRAK	41	F	0849.4	0851.4	4.2	33.0			
	930	BORD	8	S	0855.4	0855.4	.1	30.0	1.0		
	9500	POTS	29	PBI	0900.5	0901.4	9.5	28.0			
	9100	GORK	3	S	0900.7E	0901.3	2.9D	30.0	14.0		
	9500	POTS	22	GRF	0917.5	0923.0	5.5	22.0			
	9500	POTS	29	PBI	0929.0	0930.8	10.0	22.0			
	113	POTS	4	S/F	0949.5	0950.3	1.0	550.0	50.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
15	650	GORK	8	S	1007.4	1008.4	1.7	370.0			
	9100	GORK	1	S	1010.0	1010.5	1.3	18.5	9.0		
	234	POTS	4	S/F	1010.6	1010.8	.2	100.0	8.0		
	113	POTS	4	S/F	1012.5	1013.6	2.5	1100.0	50.0		
	930	BORD	8	S	1034.8	1034.9	.2	38.0	2.0		
	9500	POTS	22	GRF	1110.0	1114.4	30.0	14.0			
	430	KRAK	8	S	1115.8	1116.0	.2	10.0			
	810	KRAK	8	S	1116.4	1116.4	.2	48.0			
	113	POTS	4	S/F	1122.6	1122.7	1.4	600.0	150.0		
	204	IZMI	4	S/F	1146.8	1147.5	2.0	200.0	100.0		
	9400	HUAN	21	GRF	1148.5	1205.2	30.3	30.4	11.1		L
	9500	POTS	29	PBI	1202.5	1203.0	29.0	39.0			
	9400	HUAN	4	S/F	1202.7	1203.1	2.1	42.2	21.7		L
	430	KRAK	27	RF	1226.5	1240.7	29.5	34.0			
	113	POTS	4	S/F	1252.5	1257.0	6.5	850.0	30.0		
	9500	POTS	1	S	1254.5	1255.7	1.5	10.0			
	1470	POTS	42	SER	1255.0	1255.6	8.5	24.0			
	3000	POTS	3	S	1257.0	1257.5	1.0	10.0			
	2800	OTTA	1	S	1257.0	1257.8	1.3	7.2			
	810	KRAK	40	F	1257.2	1258.2	1.4	270.0	8.0		
	930	BORD	46	C	1257.5	1257.8	1.5	265.0	4.0		
	808	ONDR	45	C	1257.6	1258.2	1.5	55.0	7.0		
	430	KRAK	4	S/F	1257.6	1258.4	3.0	66.0	13.0		
	3000	POTS	3	S	1336.8	1337.0	1.2	22.0			
	2800	OTTA	3	S	1337.0	1337.3	1.0	14.2	5.0		
	3200	BERN	4	S/F	1337.0	1337.1	1.0	17.0			ONLY PAPER REC
	9400	HUAN	22	GRF	1352.7	1403.2	14.1	10.1	4.6		0
	7000	SAOP	20	GRF	1400.1	1403.2	8.4	14.0	7.0		32L
	930	BORD	41	F	1415.0	1415.1	1.4	50.0	2.0		
	9400	HUAN	20	GRF	1421.5	1455.3	54.5	8.4	4.4		0
	2650	DWIN	1	S	1437.0	1437.0	1.0	20.0	60.0		
	2800	OTTA	21	GRF	1445.0	1545.0	85.0	5.4	2.7		
	7000	SAOP	46	C	1530.2	1532.2	3.3	54.0	27.0		0
	9400	HUAN	4	S/F	1530.3	1532.3	3.1	59.2	26.2		0
	7000	SAOP	41	F	1530.4						
	2800	OTTA	4	S/F	1530.8	1532.3	3.0	22.0	7.3		
	5200	BERN	46	C	1531.0	1532.6	2.5	37.0			ONLY PAPER REC
	3200	BERN	4	S/F	1531.0	1532.6	2.5	31.0			ONLY PAPER REC
	9400	HUAN	30	PBI	1533.4	1533.4	45.3	10.1	3.7		0
	7000	SAOP	29	PBI	1533.4	1533.4	3.3	14.0	7.0		
	7000	SAOP	28	PRE	1536.9	1539.9	3.0	27.0	13.0		
	5200	BERN	4	S/F	1538.5	1540.5	2.5	44.0			ONLY PAPER REC
	2800	OTTA	3	S	1538.5	1540.5	3.0	49.0	12.2		
	3200	BERN	4	S/F	1538.5	1540.5	2.5	26.0			ONLY PAPER REC
	7000	SAOP	4	S/F	1539.9	1540.5	1.2	90.0	45.0		14L
	9400	HUAN	8	S	1540.0	1540.4	.8	55.8	24.0		L
	930	BORD	41	F	1540.1	1540.2	.9	29.0	3.0		
	7000	SAOP	29	PBI	1541.1		5.3	18.0	9.0		
	3200	BERN	4	S/F	1556.6	1557.5	2.0U	33.0U			ONLY PAPER REC
	5200	BERN	4	S/F	1556.6	1557.5	2.0U	42.0U			ONLY PAPER REC
	2800	OTTA	3	S	1557.0	1557.7	3.0	27.0	4.6		
	7000	SAOP	4	S/F	1604.0	1605.2	1.1	29.0	14.0		24R
	9400	HUAN	2	S/F	1604.4	1605.1	1.7	15.2	7.8		R
	7000	SAOP	29	PBI	1605.4	1605.4	3.3	14.0	7.0		
	2650	DWIN	1	S	1632.0	1632.0	1.0	25.0	8.0		
	7000	SAOP	45	C	1633.1		1.3	18.0	9.0		16R
	9400	HUAN	1	S	1633.1	1633.7	2.2	18.6	10.1		R
	7000	SAOP	29	PBI	1634.4	1634.4	1.6	9.0	4.0		
	2650	DWIN	2	S/F	1638.0	1640.0	3.0	60.0	20.0		
	9400	HUAN	20	GRF	1742.9	1744.8	6.1	6.8	5.2		0
	2800	OTTA	47	GB	2018.0	2018.9	4.0	645.0	43.0		
	2800	OTTA	29	PBI	2022.0	2022.0	8.0	3.8	1.9		
	2800	OTTA	4	S/F	2037.0		9.0	28.0	14.0		
	2800	OTTA	30	PBI	2046.0	2046.0	14.0	5.2	2.6		
	2800	OTTA	1	S	2048.2	2048.5	2.0	2.8	1.4		
	9400	HUAN	2	S/F	2211.0	2212.5	2.2	21.8	9.8		L
	9400	TYKW	5	S	2211.5	2212.5	2.5	13.0	4.0		
	9400	TYKW	45	C	2231.4	2231.8	2.5	30.0	10.0		
	3750	TYKW	5	S	2231.4	2232.0	3.0	17.0	7.0		
	2695	PENT	1	S	2231.5	2232.2	2.5	6.4	3.0		
	1000	TYKW	8	S	2231.9	2232.0	.2	9.0	2.0		
	2000	TYKW	21	GRF	2235.0	2240.0	40.0	3.0	1.0		
	1000	TYKW	21	GRF	2235.0	2245.0	40.0	2.0	1.0		
	3750	TYKW	21	GRF	2237.0	2252.0	80.0	6.0	3.0		
	9400	TYKW	21	GRF	2237.0	2255.0	80.0	7.0	3.0		
	1000	TYKW	5	S	2242.5	2242.8	1.5	14.0	4.0		
	2000	TYKW	5	S	2242.5	2242.8	1.5	3.0	1.0		
	3750	TYKW	5	S	2242.5	2243.0	1.5	4.0	1.5		
	1000	TYKW	45	C	2248.0	2248.7	1.0	9.0	2.5		
	9400	TYKW	5	S	2302.0	2303.2	5.0	228.0	45.0		
	3750	TYKW	5	S	2302.0	2303.3	10.0	15.0	3.5		
	17000	NOBE	1	S	2302.7	2303.2	2.0	96.0			L
	9400	TYKW	29	PBI	2307.0		10.0	8.0	4.0		
	9400	TYKW	28	PRE	2317.0	2320.0	3.0	6.0	3.0		
	3750	TYKW	5	S	2319.0	2323.5	15.0	5.0	2.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
15	9400	TYKW	5	S	2320.0	2320.2	5.0	45.0	18.0		
	9400	TYKW	30	PBI	2325.0		30.0	11.0	5.0		
	9400	TYKW	5	S	2329.0	2332.0	10.0	11.0	3.5		
	9400	TYKW	5	S	2341.0	2344.0	8.0	4.0	2.0		
	3750	TYKW	5	S	2345.0	2345.7	7.0	5.0	1.5		
16	200	GORK	44	NS	0421.0E		461.0D	20.0			
	100	GORK	44	NS	0444.0E		369.0D		5.0		
	204	IZMI	44	NS	0600.0E		360.0D	70.0			
	127	TORN	44	NS	0630.0E		510.0D		7.0		V1,DISTURBED
	260	ONDR	44	NS	0740.0E	1046.0	431.0D	202.0D	10.0		
	200	HIRA	44	NS	2044.0E	0500.0	670.0D	390.0	110.0		WL
	100	HIRA	44	NS	2044.0E	2215.0	670.0D	330.0	80.0		
	200	HIRA	42	SER	0003.6	0117.0	75.0	350.0			MR
	3750	TYKW	45	C	0012.0	0016.0	20.0	10.0	5.0		
	2000	TYKW	5	S	0013.0	0015.8	3.0	9.0	3.0		
	9400	TYKW	28	PRE	0014.0	0017.0	6.0	5.0	2.5		
	1000	TYKW	45	C	0015.0	0015.7	1.3	4.0	1.5		
	2000	TYKW	29	PBI	0016.0		45.0	2.5	1.0		
	9400	TYKW	45	C	0020.0	0021.3	26.0	25.0	9.0		
	1000	TYKW	45	C	0026.0	0026.5	.7	4.0	1.0		
	3750	TYKW	29	PBI	0032.0		30.0	4.0	2.0		
	17000	NOBE	1	S	0108.0	0108.3	.5	50.0			O
	2000	TYKW	20	GRF	0120.0	0123.0	50.0	2.5	1.0		
	3750	TYKW	20	GRF	0145.0	0158.0	30.0	3.0	1.5		
	9400	TYKW	45	C	0217.0	0218.9	5.0	33.0	14.0		
	3750	TYKW	5	S	0217.0	0219.0	5.0	3.0	1.0		
	9400	TYKW	30	PBI	0222.0		35.0	8.0	4.0		
	3750	TYKW	45	C	0222.0	0232.6	16.0	8.0	3.0		
	9400	TYKW	45	C	0228.0	0229.2	2.5	11.0	3.0		
	2000	TYKW	21	GRF	0228.0	0310.0	130.0	2.0	1.0		
	9400	TYKW	30	PBI	0230.5		10.0	3.0	1.5		
	9400	TYKW	5	S	0235.0	0236.0	3.0	12.0	3.0		
	3750	TYKW	29	PBI	0238.0		15.0	4.0	2.0		
	17000	NOBE	1	S	0244.4	0244.8	1.2	15.0			O
	9400	TYKW	45	C	0259.0	0312.5	36.0	73.0	27.0		
	3750	TYKW	45	C	0259.0	0316.7	36.0	25.0	8.0		
	17000	NOBE	21	GRF	0306.5	0324.2	66.0	15.0			O
	4995	MANI	3	S	0311.6	0313.0	8.0	33.3	11.1		
	8800	MANI	3	S	0312.0	0313.0	7.5	50.5	16.8		
	2000	TYKW	8	S	0316.5	0316.6	.2	6.0	2.0		
	1000	TYKW	8	S	0316.6	0316.7	.2	3.0	1.0		
	9400	TYKW	30	PBI	0335.0		95.0	20.0	6.0		
	3750	TYKW	30	PBI	0335.0		65.0	4.0	2.0		
	3750	TYKW	5	S	0349.0	0350.8	4.0	105.0	18.0		
	9400	TYKW	45	C	0350.0	0350.8	5.0	131.0	20.0		
	4995	MANI	3	S	0350.0	0350.7	2.0	233.0	77.7		
	8800	MANI	3	S	0350.3	0350.8	1.7	183.6	61.2		
	2695	MANI	3	S	0350.5	0351.0	1.5	21.3	7.1		
	17000	NOBE	1	S	0350.6	0350.9	1.5	35.0			O
	3750	TYKW	29	PBI	0353.0		8.0	6.0	2.5		
	9400	TYKW	29	PBI	0355.0		6.0	6.0	3.0		
	2000	TYKW	5	S	0400.0	0403.0	15.0	3.0	1.0		
	3750	TYKW	45	C	0402.0	0402.6	6.0	35.0	6.0		
	9400	TYKW	45	C	0402.0	0402.6	1.5	47.0	6.0		
	2950	GORK	21	GRF	0441.4		430.0D				
	650	GORK	23	GRF	0442.0E		468.0D	10.0			
	9100	GORK	23	GRF	0450.4	0649.3	480.0D	140.0			
	9400	TYKW	45	C	0520.0	0522.5	3.0	22.0	5.0		
	1000	TYKW	8	S	0522.3	0522.5	.4	29.0	7.0		
	9400	TYKW	30	PBI	0523.0		25.0	6.0	2.0		
	17000	NOBE	7	C	0526.8	0526.8	7.0	35.0			O
	9400	TYKW	5	S	0535.0	0536.2	2.0	6.0	2.0		
	3750	TYKW	5	S	0554.0	0556.0	20.0	9.0	3.0D		
	9400	TYKW	28	PRE	0554.0	0600.6	26.0	18.0	10.0		
	204	IZMI	8	S	0600.5	0600.5	.3	250.0	200.0		
	100	GORK	8	S	0600.5	0600.8	10.1	50.0D			
	9400	TYKW	45	C	0620.0	0636.2	40.0	215.0	50.0		
	3750	TYKW	45	C	0620.0	0640.5	35.0	3.0	11.0		
	2000	TYKW	21	GRF	0620.0	0655.0	60.0D	8.0	4.0D		
	6100	KISV	21	GRF	0625.0	0636.0	40.0	62.0			
	9100	GORK	3	S	0631.9	0636.2	8.1	170.0			
	3100	CRIM	20	GRF	0634.0	0640.5	30.0	30.0	10.0		
	17000	NOBE	21	GRF	0634.0	0655.4	60.0	40.0			L
	17000	NOBE	1	S	0635.8	0636.1	.8	80.0			L
	2950	GORK	3	S	0639.3	0640.4	3.3	15.0			
	2000	TYKW	5	S	0640.0	0640.5	4.0	9.0	3.0		
	3750	TYKW	29	PBI	0655.0		35.0D	14.0	9.0		
	9400	TYKW	29	PBI	0700.0		30.0D	45.0	33.0D		
	430	KRAK	42	SER	0808.0	0826.7	28.5	380.0			
	9500	POTS	23	GRF	0827.0	0933.5	126.0	60.0			
	3100	CRIM	20	GRF	0828.0	0858.0	35.0	12.0	4.0		
	930	BORD	41	F	0839.7	0842.0	2.6	38.0	2.0		
	100	GORK	46	C	0859.3	0859.6	2.1	75.0D			
	100	GORK			0859.3	0900.0		4400.0D			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
16	113	POTS	4	S/F	0859.4	0859.8	1.5	150.0	8.0		III
	9100	GORK	3	S	0932.1	0933.2	4.7	40.0			
	430	KRAK	8	S	0932.3	0932.3	.2	330.0			
	6100	KISV	3	S	0932.5	0933.3	2.0	21.0			
	5200	BERN	1	S	0933.0	0933.5	1.0	10.0			ONLY PAPER REC
	430	KRAK	42	SER	1010.5	1012.3	86.0	110.0			
	430	KRAK			1010.5	1046.1		260.0			
	1470	POTS	4	S/F	1021.8	1023.5	2.2	52.0			
	810	KRAK	8	S	1024.2	1024.4	.4	20.0			
	29	UPIC	42	SER	1028.5		140.8				
	33	UPIC	42	SER	1028.5	1247.4	140.2				
	650	GORK	4	S/F	1033.0	1033.8U	1.1	10.0D			
	930	BORD	41	F	1041.6	1042.2	2.6	15.0	4.0		
	536	ONDR	42	SER	1043.0	1215.5	98.0	21.0			
	234	POTS	41	F	1045.8	1046.1	1.5	3400.0	115.0		III
	204	IZMI	8	S	1046.0	1046.1	.5	840.0	600.0		
	100	GORK	8	S	1046.0	1046.3U	1.0	65.0D			
	113	POTS	41	F	1046.1	1046.2	2.8	1200.0	20.0		III
	100	GORK	2	S/F	1132.7	1133.9	2.5	65.0D			
	113	POTS	4	S/F	1132.8	1134.5	2.5	700.0	70.0		III
	950	GORK	2	S/F	1133.0	1134.0	1.2	7.0			
	810	KRAK	3	S	1133.1	1133.3	1.5	44.0	10.0		
	930	BORD	46	C	1133.4	1134.5	1.4	20.0	3.0		
	9500	POTS	29	PBI	1150.0	1152.9	30.0	58.0			
	9100	GORK	4	S/F	1150.3	1152.9	7.2	57.0			
	5200	BERN	3	S	1150.3	1153.0	14.0	22.0			ONLY PAPER REC
	3200	BERN	3	S	1150.3	1153.0	8.0	11.0			ONLY PAPER REC
	9400	HUAN	4	S/F	1150.4	1152.6	4.0	55.6	27.6		L
	7000	SAOP	28	PRE	1150.4	1225.6	56.6	89.0	44.0		
	6100	KISV	4	S/F	1150.5	1153.0	4.0	26.0			
	3000	POTS	3	S	1151.0	1153.0	8.0	16.0			
	2950	GORK	1	S	1151.1	1152.9	3.1	11.0	5.0		
	2650	DWIN	1	S	1152.0	1153.0	2.0	10.0	5.0		
	3100	CRIM	1	S	1153.0	1155.0	4.0	14.0	5.0		
	9400	HUAN	30	PBI	1154.4	1154.4	63.1	20.2	11.2		LRL
	3200	BERN	46	C	1208.1	1248.0	51.0	118.0			ONLY PAPER REC
	5200	BERN	46	C	1208.1	1248.0	51.0	192.0U			ONLY PAPER REC
	430	KRAK	42	SER	1208.2	1214.7	91.0	340.0			
	430	KRAK			1208.2	1247.1		650.0			
	2800	OTTA	21	GRF	1214.0		105.0	33.0	19.8		
	3000	POTS	21	GRF	1214.4	1219.1	76.0	29.0			
	1470	POTS	21	GRF	1215.0	1215.8	80.0	10.0			
	2650	DWIN	47	GB	1215.0	1226.0	25.0	300.0	60.0		
	2800	OTTA	8	S	1215.7	1215.9	.3	6.6	3.3		
	3100	CRIM	3	S	1216.0	1227.8	24.0	231.0	77.0		
	650	GORK	4	S/F	1217.7	1218.2U	1.5	13.0D			
	950	GORK	2	S/F	1218.0	1219.0	1.5	17.0			
	1470	POTS	4	S/F	1223.5	1226.0	10.0	406.0			
	810	KRAK	45	C	1223.8	1224.3	9.1	240.0	39.0		
	930	BORD	46	C	1224.0	1225.3	9.0	343.0	14.0		
	2800	OTTA	4	S/F	1224.0	1225.9	15.0	241.0	52.0		
	9500	POTS	21	GRF	1224.0	1227.0	81.0	37.0			
	536	ONDR	45	C	1224.0	1227.5	8.0	91.0	31.0		
	2950	GORK	3	S	1224.0	1225.0U	8.0	34.0E			
	950	GORK	4	S/F	1224.0	1225.6U	5.0	80.0D			
	808	ONDR	45	C	1224.2	1225.6	6.0	222.0	72.0		
	9100	GORK	46	C	1224.4	1225.8	6.8	34.0			
	9100	GORK			1224.4	1227.0		87.0			
	3000	POTS	4	S/F	1224.5	1225.8	11.0	210.0			
	9400	HUAN	4	S/F	1224.8	1227.0	3.2	27.0	17.5		R
	1470	POTS	4	S/F	1244.5	1247.3	5.5	223.0			
	9500	POTS	4	S/F	1245.0	1247.0	7.5	310.0			
	930	BORD	46	C	1245.0	1247.3	4.0	1181.0	14.0		
	3000	POTS	4	S/F	1245.0	1247.5	4.0	180.0			
	2800	OTTA	46F	C	1245.0	1248.0	10.0	178.0	27.0		
	2650	DWIN	45	C	1245.0	1248.0	4.0	150.0	40.0		
	113	POTS	4	S/F	1246.4	1247.1	2.3	900.0	25.0		III
	536	ONDR	4	S/F	1246.5	1247.5	2.0	318.0	72.0		
	810	KRAK	5	S	1246.6	1247.2	2.0	490.0	130.0		
	808	ONDR	4	S/F	1246.7	1247.1	2.0	626.0D	151.0		
	9400	HUAN	3	S	1246.8	1248.0	2.4	494.0	173.5		L
	7000	SAOP	47	GB	1247.0	1248.0	1.7	594.0	297.0		9L
	7000	SAOP	29	PBI	1248.7	1248.7	49.3	89.0	44.0		
	113	POTS	4	S/F	1330.5	1330.6	1.0	500.0	100.0		III
	9500	POTS	4	S/F	1357.5	1359.9	6.5	44.0			
	7000	SAOP	3	S	1358.7	1359.8	2.2	79.0	39.0		14L
	9400	HUAN	3	S	1358.8	1359.7	2.4	42.1	21.7		L
	5200	BERN	1	S	1359.3	1400.0	1.5	10.0			ONLY PAPER REC
	7000	SAOP	29	PBI	1400.9	1402.0	9.5	37.0	18.0		
	9400	HUAN	29	PBI	1401.2	1401.2	7.4	11.8	5.9		L
	2800	OTTA	240	R	1530.0	1610.0	40.0	5.4	3.0		
	7000	SAOP	20	GRF	1640.8		19.7	9.0	4.0		0
	9400	HUAN	20	GRF	1641.8	1654.0	16.0	6.7	3.6		0
	9400	HUAN	23	GRF	1712.7	1735.0	47.7	8.4	3.9		L
	2800	OTTA	45	C	1718.0	1719.0	4.0	15.4	7.7		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Flux Density (10 -22 W/m 2 Hz) Mean	Int	Remarks
16	9400	HUAN	45	C	1718.1	1718.7	4.0	165.2	49.4		L
	7000	SAOP	46	C	1718.2	1718.8	3.9	171.0	85.0		12L
	7000	SAOP	29	PBI	1722.1	1722.1	8.8	23.0	11.0		
	2800	OTTA	1	S	1746.0	1748.5	8.0	6.0	3.0		
	2800	OTTA	21	GRF	1813.0	1845.0	50.0	5.4	2.7		
	9400	HUAN	21	GRF	1828.0	1837.7	26.7	10.1	3.5		L
	9400	HUAN	1	S	1835.5	1836.0	1.9	21.9	11.5		L
	7000	SAOP	40	F	1835.9	1850.0	31.3	45.0	22.0		25L
	2800	OTTA	8	S	1850.5	1850.8	.8	7.6	3.8		
	9400	HUAN	2	S/F	1850.7	1850.8	1.6	20.2	8.4		L
	2800	OTTA	240	R	1950.0	2005.0	15.0	5.4	2.8		
	2800	OTTA	23	GRF	2010.0	2045.0	80.0	13.0	6.5		
	9400	HUAN	21	GRF	2031.8	2039.3	28.8	210.7	27.7		L
	9400	HUAN	8	S	2034.3	2034.7	.7	32.0	10.1		L
	9400	HUAN	3	S	2036.8	2037.4	2.1	551.3	210.5		L
	9400	HUAN	4	S/F	2048.4	2049.8	4.3	18.5	16.7		L
	9400	HUAN			2048.4	2051.3		30.3			L
	2800	OTTA	3	S	2049.0	2052.0	5.0	11.0	5.5		
	9400	HUAN	1	S	2110.1	2110.9	2.1	11.8	8.7		L
	1000	TYKW	45	C	2117.0E	2202.3	80.0D	95.0	30.0D		
	9400	TYKW	28	PRE	2201.0	2204.0	10.5	8.0	4.0		
	9400	TYKW	5	S	2211.5	2211.9	2.5	40.0	19.0		
	9400	HUAN	2	S/F	2211.6	2212.2	2.0	23.6	8.4		L
	9400	TYKW	30	PBI	2214.0		85.0	13.0	7.0		
	3750	TYKW	45	C	2214.0	2216.6	11.0	6.0	2.0		
	9400	TYKW	45	C	2216.0	2216.5	8.0	11.0	4.0		
	2000	TYKW	45	C	2216.0	2217.1	2.0	7.0	2.0		
	3750	TYKW	21	GRF	2227.0	2255.0	120.0	6.0	3.0		
	2000	TYKW	21	GRF	2227.0	2325.0	120.0	4.0	2.0		
	9400	TYKW	21	GRF	2228.0	2240.0	40.0	16.0	9.0		
	2695	PENT	8	S	2228.8	2228.8	.2	7.8			
	3750	TYKW	45	C	2229.0	2232.6	14.0	22.0	6.0		
	2000	TYKW	5	S	2229.0	2232.7	7.0	9.0	3.5		
	9400	TYKW	5	S	2231.5	2233.0	4.5	7.0	3.0		
	2695	PENT	3	S	2231.5	2233.0	4.5	10.4	7.4		
	1000	TYKW	45	C	2247.0	2300.7	95.0	12.0	2.0		
	9400	TYKW	5	S	2325.0	2325.3	2.0	6.0	2.0		
	9400	TYKW	5	S	2342.3	2342.7	1.5	21.0	6.0		
	2000	TYKW	5	S	2342.3	2342.8	1.5	6.0	2.0		
	3750	TYKW	5	S	2342.3	2342.8	1.5	14.0	4.0		
	2695	PENT	4	S/F	2342.5	2343.0	1.0	20.8	7.0		
	9400	TYKW	45	C	2354.0	2355.9	4.0	71.0	20.0		
	17000	NOBE	1	S	2354.3	2356.1	3.5	40.0			L
	9400	TYKW	29	PBI	2358.0		25.0	12.0	4.0		
17	208	VORO	44	NS	0000.0E	0255.0	180.0D	120.0D	73.0		
	200	GORK	44	NS	0445.0E		375.0D		30.0		
	100	GORK	44	NS	0452.0E		368.0D		15.0		
	204	IZMI	44	NS	0600.0E		360.0D	65.0			
	127	TORN	44	NS	0630.0E	0711.0	510.0D	200.0	59.0		V1
	260	ONDR	44	NS	0800.0E		420.0D	71.0	16.0		
	430	KRAK	44	NS	0825.0E	0942.9	180.0D	26.0			
	200	HIRA	44	NS	2044.0E	2251.0	670.0D	60.0	40.0		0
	100	HIRA	44	NS	2044.0E	2343.0	670.0D	180.0	90.0		
	208	VORO	44	NS	2300.0E		240.0D		29.0		
	9400	TYKW	21	GRF	0030.0	0100.0	200.0	19.0	9.0		
	3750	TYKW	21	GRF	0030.0	0101.0	180.0	19.0	8.0		
	1000	TYKW	45	C	0031.0	0035.0	40.0	47.0	10.0		
	2000	TYKW	21	GRF	0045.0	0101.0	160.0	8.0	3.0		
	3750	TYKW	45	C	0111.0	0118.0	20.0	5.0	2.5		
	9400	TYKW	45	C	0112.0	0126.0	25.0	12.0	4.0		
	1000	TYKW	45	C	0116.0	0125.4	25.0	7.0	2.5		
	1000	TYKW	45	C	0144.0	0150.4	10.0	16.0	4.0		
	3750	TYKW	45	C	0148.0	0151.0	6.0	14.0	3.5		
	9400	TYKW	5	S	0150.0	0150.9	4.0	65.0	9.0		
	1000	TYKW	45	C	0154.0	0155.0	7.0	9.0	3.0		
	2000	TYKW	20	GRF	0155.0	0210.0	50.0	4.0	2.0		
	606	MANI	4	S/F	0157.5	0222.0	72.5	123.0	41.0		
	1000	TYKW	45	C	0202.0	0231.9	110.0	310.0	60.0		
	3750	TYKW	45	C	0205.0	0211.5	30.0	7.0	2.5		
	9400	TYKW	20	GRF	0205.0	0215.0	35.0	6.0	3.0		
	3750	TYKW	5	S	0241.0	0244.0	7.0	3.0	1.0		
	9400	TYKW	5	S	0242.5	0243.0	3.0	23.0	8.0		
	17000	NOBE	1	S	0242.6	0242.9	2.0	20.0			0
	9400	TYKW	45	C	0253.0	0254.2	8.0	12.0	3.0		
	9400	TYKW	45	C	0253.0	0254.2	8.0		12.0		
	3750	TYKW	5	S	0255.0	0300.0U	20.0	6.0U	3.0D		
	9400	TYKW	45	C	0313.8	0314.1	3.5	14.0	3.0		
	17000	NOBE	1	S	0313.8	0314.2	2.0	70.0			0
	9400	TYKW	5	S	0333.5	0335.3	13.0	25.0	8.0		
	2000	TYKW	20	GRF	0350.0	0420.0	150.0	4.0	2.0		
	3750	TYKW	28	PRE	0353.0	0419.0	26.0	9.0	4.0		
	9400	TYKW	28	PRE	0359.0	0359.8	20.0	7.0	3.0		
	9400	TYKW	5	S	0419.0	0419.9	2.0	22.0	12.0		
	3750	TYKW	45	C	0419.0	0434.5	30.0	22.0	11.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
17	9400	TYKW	30	PBI	0421.0		120.0	11.0	5.0		
	9400	TYKW	5	S	0428.5	0429.4	3.5	8.0	3.0		
	9400	TYKW	5	S	0439.0	0441.0	14.0	8.0	3.0		
	3750	TYKW	30	PBI	0449.0		100.0	8.0	4.0		
	9400	TYKW	28	PRE	0502.0	0502.3	15.0	13.0	5.0		
	3750	TYKW	45	C	0502.0	0518.7	45.0	24.0	8.0		
	17000	NOBE	1	S	0502.1	0502.4	1.5	41.0			0
	2950	GORK	21	GRF	0509.0E		350.0D				
	9100	GORK	23	GRF	0512.0E	0737.5	348.0D	98.0			
	9400	TYKW	45	C	0517.0	0517.6	9.0	60.0	20.0		
	9100	GORK	3	S	0517.1	0517.4	1.7	50.0			
	1000	TYKW	5	S	0520.0	0520.6	2.0	2.0	0.5		
	9400	TYKW	30	PBI	0526.0		35.0	13.0	6.0		
	9400	TYKW	5	S	0529.0	0530.9	3.0	8.0	3.0		
	1000	TYKW	5	S	0533.1	0533.4	.5	5.0	1.5		
	3750	TYKW	29	PBI	0547.0		18.0	4.0	2.0		
	3750	TYKW	45	C	0607.0	0611.0	11.0	8.0	3.0		
	650	GORK	8	S	0647.2	0647.6	.4	160.0			
	6100	KISV	3	S	0729.0	0730.2	2.0	26.0			
	9500	POTS	3	S	0729.0	0730.2	3.0	24.0			
	5200	BERN	22	GRF	0729.3	0736.1	28.0	43.0			ONLY PAPER REC
	606	MANI	4	S/F	0733.1	0736.0	6.8	27.5	9.0		
	3200	BERN	22	GRF	0733.1	0736.1	23.0	39.0			ONLY PAPER REC
	1470	POTS	4	S/F	0733.5	0736.4	11.0	28.0			
	6100	KISV	27	RF	0734.0	0736.2	20.0	43.0			
	9500	POTS	29	PBI	0734.0	0735.8	25.0	36.0			
	3000	POTS	4	S/F	0734.5	0735.8	11.0	52.0			
	950	GORK	46	C	0734.5	0736.2	9.4	7.5			
	950	GORK			0734.5	0738.2		9.5			
	2950	GORK	3	S	0734.7U	0736.0	1.6U	45.0D			
	2650	DWIN	4	S/F	0735.0	0736.0	10.0	70.0	35.0		
	2695	MANI	4	S/F	0735.0	0736.6	10.0	79.5	26.5		
	4995	MANI	4	S/F	0735.1	0736.0	6.8	45.4	15.1		
	1415	MANI	4	S/F	0735.1	0736.6	9.4	40.0	13.3		
	9500	POTS	3	S	0832.0	0833.5	4.0	16.0			
	9100	GORK	1	S	0832.2	0833.0	3.1	15.0			
	9500	POTS	29	PBI	0840.0	0842.5	18.0	40.0			
	9100	GORK	3	S	0840.4	0842.8	3.9	44.0			
	1470	POTS	3	S	0853.0	0853.7	1.5	14.0			
	536	ONDR	8	S	0905.0	0905.0	.2	34.0			
	9500	POTS	22	GRF	0945.0	0950.4	28.0	30.0			
	2650	DWIN	1	S	0951.0	0951.0	1.0	15.0	5.0		
	536	ONDR	4	S/F	0951.0	0951.3	.8	143.0	35.0		
	930	BORD	46	C	0951.0	0951.5	1.0	42.0	14.0		
	650	GORK	8	S	0951.0	0951.4	.8	100.0			
	950	GORK	3	S	0951.1	0951.9	.8	35.0			
	113	POTS	4	S/F	0952.0	0954.1	7.6	320.0	15.0		
	5200	BERN	22	GRF	1028.7	1043.3	35.0	19.0			ONLY PAPER REC
	9100	GORK	46	C	1034.8	1035.7	12.9	70.0			
	9100	GORK			1034.8	1043.2		84.0			
	9500	POTS	23	GRF	1035.0	1048.4	25.0	71.0			
	430	KRAK	8	S	1050.8	1051.4	1.0	560.0			
	810	KRAK	8	S	1050.9	1051.2	.8	30.0			
	234	POTS	4	S/F	1100.9	1101.2	.3	275.0	15.0		
	33	UPIC	42	SER	1102.5	1102.6	12.7				
	29	UPIC	42	SER	1102.5	1102.8	12.9				
	9400	HUAN	1	S	1114.4	1115.0	1.9	12.1	5.9		0
	7000	SAOP	3	S	1114.7	1115.1	.8	16.0	8.0		0
	9400	HUAN	2	S/F	1128.4	1129.7	4.4	15.6	9.5		0
	5200	BERN	20	GRF	1141.0	1142.0	11.0	12.0			ONLY PAPER REC
	9400	HUAN	1	S	1141.2	1141.8	2.9	13.0	7.6		L
	234	POTS	4	S/F	1152.7	1152.9	.9	300.0	12.0		III
	9400	HUAN	1	S	1158.8	1159.8	3.3	12.1	7.4		0
	9400	HUAN	1	S	1204.1	1204.6	3.3	10.4	7.9		0
	930	BORD	41	F	1236.3	1236.5	.2	37.0	2.0		
	7000	SAOP	3	S	1240.7	1241.7	2.5	48.0	24.0		43L
	7000	SAOP	29	PBI	1243.2		7.2	20.0	10.0		
	810	KRAK	8	S	1253.9	1254.0	.2	120.0			
	930	BORD	41	F	1254.1	1254.2	.2	73.0	2.0		
	7000	SAOP	20	GRF	1254.7	1302.1	21.8	29.0	14.0		
	9400	HUAN	20	GRF	1300.6	1326.4	32.4	10.4	4.8		0
	5200	BERN	4	S/F	1300.7	1301.7	6.0	10.0			ONLY PAPER REC
	113	POTS	42	SER	1312.5	1313.6	14.0	400.0	1.0		
	2800	OTTA	22	GRF	1315.0	1517.0	190.0	22.8	7.6		
	430	KRAK	40	F	1324.7	1324.8	1.8	29.0			
	1470	POTS	3	S	1325.0	1325.5	1.0	20.0			
	2650	DWIN	1	S	1337.0	1337.0	1.0	30.0	10.0		
	9400	HUAN	20	GRF	1352.5	1401.6	15.9	8.6	3.8		0
	9500	POTS	3	S	1353.0	1353.4	1.4	12.0			
	930	BORD	41	F	1426.4	1426.6	.5	121.0	2.0		
	9400	HUAN	21	GRF	1439.5	1517.0	63.2	15.6	9.4		0
	9400	HUAN	2	S/F	1522.9	1523.4	1.5	19.0	11.6		0
	7000	SAOP	4	S/F	1523.0	1523.3	.9	35.0	17.0		0
	930	BORD	8	S	1556.0	1556.0	.2	15.0	2.0		
	9400	HUAN	21	GRF	1603.8	1617.7	36.0	17.3	7.2		L

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
17	9400	HUAN	4	S/F	1613.1	1615.3	4.1	36.3	22.1		L
	7000	SAOP	45	C	1613.1	1615.5	3.4	53.0	26.0		O
	7000	SAOP	29	PBI	1616.5	1616.5	7.5	29.0	14.0		
	2800	OTTA	23	GRF	1700.0	1800.0	380.0	19.6	12.0		
	2800	OTTA	4	S/F	1743.5	1748.5	15.0	46.0	16.0		
	9400	HUAN	21	GRF	1815.2	1836.2	38.0	15.6	5.0		L
	7000	SAOP	45	C	1830.8	1831.8	2.3	160.0	80.0		8L
	2800	OTTA	1	S	1831.0	1832.2	3.0	5.6	2.8		
	9400	HUAN	4	S/F	1831.3	1831.8	4.3	133.2	68.2		L
	7000	SAOP	29	PBI	1833.1	1833.8	10.0	70.0	35.0		
	7000	SAOP	28	PRE	1918.0		8.7	16.0	8.0		
	9400	HUAN	4	S/F	1926.2	1928.2	3.6	24.2	12.7		L
	7000	SAOP	4	S/F	1926.7	1928.1	1.9	45.0	22.0		14L
	2800	OTTA	1	S	1927.0	1928.2	2.0	6.2	3.0		
	7000	SAOP	29	PBI	1928.7		4.2	12.0	6.0		
	9400	HUAN	1	S	2032.8	2033.3	1.8	22.5	8.6		L
	9400	HUAN	1	S	2138.1	2138.6	1.2	12.1	5.9		L
	9400	TYKW	21	GRF	2200.0U	2220.0	80.0U	6.0	3.0		
	2000	TYKW	20	GRF	2200.0U	2225.0	80.0U	3.0	1.5		
	3750	TYKW	20	GRF	2200.0U	2225.0	85.0U	7.0	3.0		
	9400	TYKW	5	S	2222.0	2223.1	4.0	8.0	3.0		
	9400	TYKW	5	S	2311.0	2311.7	2.0	9.0	3.0		
	9400	TYKW	45	C	2329.0	2331.1	16.0	40.0	8.0		
	3750	TYKW	45	C	2333.0	2342.7	15.0	9.0	3.0		
	9400	TYKW	30	PBI	2345.0		105.0	8.0	3.0		
	2000	TYKW	20	GRF	2350.0	0012.0	40.0	3.0	1.0		
	3750	TYKW	5	S	2352.0	2356.5	15.0	4.0	1.5		
	9400	TYKW	28	PRE	2355.5	2356.7	14.5	14.0	4.0		
	1000	TYKW	45	C	2356.0	2356.6	1.0	33.0	6.0		
18	200	GORK	44	NS	0439.0E		472.0D		25.0		
	100	GORK	44	NS	0441.0E		469.0D		10.0		
	204	IZMI	44	NS	0600.0E		360.0D	70.0			
	127	TORN	44	NS	0630.0E	0839.5	510.0D	430.0	268.0		V1
	260	ONDR	44	NS	0740.0E	1001.5	430.0D	64.0	6.0		
	200	HIRA	44	NS	2045.0E	0326.0	670.0D	150.0	70.0		ML
	100	HIRA	44	NS	2045.0E	0451.0	670.0D	500.0	220.0		WL
	208	VORO	44	NS	2300.0E		240.0D		46.0		
	9400	TYKW	5	S	0010.0	0010.3	4.0	57.0	19.0		
	3750	TYKW	21	GRF	0010.0	0012.0	35.0	3.0	1.0		
	17000	NOBE	8	S	0010.1	0010.2	.4	44.0			L
	9400	TYKW	30	PBI	0014.0		27.0	8.0	4.0		
	3750	TYKW	5	S	0018.0	0023.0	15.0	2.0	1.0		
	9400	TYKW	45	C	0019.0	0023.4	20.0	21.0	7.0		
	1000	TYKW	45	C	0049.0	0051.6	8.0	11.0	2.5		
	3750	TYKW	5	S	0050.0	0051.5	3.0	2.0	1.0		
	2000	TYKW	5	S	0050.0	0052.0	15.0	2.0	1.0		
	9400	TYKW	5	S	0100.0	0100.2	1.5	9.0	2.5		
	9400	TYKW	5	S	0109.0	0110.0	10.0	6.0	3.0		
	3750	TYKW	5	S	0132.0	0145.0	20.0	3.0	1.5		
	9400	TYKW	8	S	0140.2	0140.3	.3	9.0	3.0		
	3750	TYKW	5	S	0201.0	0205.0	11.0	11.0	7.0		
	2000	TYKW	5	S	0202.0	0206.0	21.0	3.0	1.5		
	9400	TYKW	45	C	0205.0	0206.4	6.0	46.0	14.0		
	9400	TYKW	29	PBI	0211.0		5.0	4.0	2.0		
	3750	TYKW	30	PBI	0212.0		90.0	4.0	2.0		
	9400	TYKW	45	C	0221.5	0223.6	3.5	6.0	2.0		
	17000	NOBE	1	S	0223.4	0223.6	1.5	34.0			R
	3750	TYKW	45	C	0233.0	0233.9	5.0	13.0	2.0		
	9400	TYKW	45	C	0233.0	0236.3	5.0	21.0	9.0		
	2000	TYKW	42	SER	0233.0	0236.3	4.0	20.0	1.5		
	17000	NOBE	1	S	0233.2	0234.4	4.0	24.0			L
	9400	TYKW	30	PBI	0238.0		110.0	4.0	2.0		
	2000	TYKW	20	GRF	0239.0	0255.0	70.0	3.0	1.5		
	208	VORO	4	S/F	0251.5	0254.0U	3.5	120.0D			
	1000	TYKW	8	S	0305.0	0305.1	.3	7.0	2.5		
	9400	TYKW	45	C	0317.0	0320.0	7.0	8.0	2.0		
	9400	TYKW	5	S	0341.0	0341.9	5.0	6.0	1.5		
	9400	TYKW	5	S	0355.0	0356.6	8.0	9.0	3.5		
	9400	TYKW	5	S	0405.0	0405.9	2.0	4.0	1.5		
	3750	TYKW	5	S	0407.0	0418.0	25.0	6.0	3.0		
	9400	TYKW	5	S	0412.0	0413.8	8.0	6.0	2.0		
	9400	TYKW	45	C	0435.0	0437.1	5.0	15.0	4.0		
	950	GORK	21	GRF	0437.0E		493.0D				
	9100	GORK	23	GRF	0441.0	1213.9	487.0D	75.0			
	2950	GORK	21	GRF	0444.0E		480.0D				
	9400	TYKW	28	PRE	0445.0	0451.0	6.5	3.0	1.5		
	3750	TYKW	21	GRF	0445.0	0558.0	105.0	8.0	4.0		
	3750	TYKW	5	S	0450.0	0451.9	5.0	10.0	3.0		
	2000	TYKW	5	S	0450.0	0452.0	15.0	1.5	0.5		
	9400	TYKW	5	S	0451.5	0451.9	1.5	31.0	11.0		
	9100	GORK	1	S	0451.6	0451.9	2.3	27.0			
	1000	TYKW	5	S	0451.7	0452.0	1.0	2.0	0.5		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
18	9400	TYKW	29	PBI	0453.0		5.0	6.0	3.0		
	3750	TYKW	29	PBI	0455.0		10.0	2.0	1.0		
	9400	TYKW	21	GRF	0505.0	0535.0	85.0	10.0	5.0		
	9400	TYKW	5	S	0508.5	0508.8	1.0	5.0	1.5		
	3750	TYKW	5	S	0510.0	0514.1	12.0	7.0	2.0		
	9400	TYKW	5	S	0512.0	0514.3	6.0	12.0	4.0		
	650	GORK	21	GRF	0515.0	0845.0	454.0	14.0			
	9400	TYKW	5	S	0523.0	0526.3	10.0	13.0	5.0		
	1000	TYKW	5	S	0523.3	0523.5	.5	17.0	5.0		
	3750	TYKW	5	S	0525.0	0526.0	6.0	3.0	1.0		
	2000	TYKW	20	GRF	0535.0	0601.0	55.0	4.0	2.0		
	17000	NOBE	20	GRF	0536.2	0552.0	40.0	20.0			L
	9400	TYKW	5	S	0551.0	0552.1	2.0	31.0	12.0		
	9100	GORK	1	S	0551.6	0552.1	2.0	29.0			
	9400	TYKW	29	PBI	0553.0		6.0	7.0	3.0		
	100	GORK	41	F	0619.4	0619.7	5.3	145.0D			
	100	GORK			0619.4	0621.2		145.0D			
	100	GORK			0619.4	0624.2		4700.0			
	3750	TYKW	5	S	0640.5	0641.0	2.5	5.0	2.0		
	2000	TYKW	45	C	0640.5	0641.4	2.0	11.0	2.5		
	9400	TYKW	45	C	0642.0	0642.4	3.0	32.0	9.0		
	17000	NOBE	1	S	0642.0	0642.3	2.0	61.0			O
	9100	GORK	1	S	0642.0	0642.4	1.8	29.0			
	17000	NOBE	1	S	0649.5	0649.7	.5	20.0			O
	6100	KISV	3	S	0658.0	0700.0	10.0	19.0			
	6100	KISV	1	S	0714.5	0715.5	2.0	7.0			
	1470	POTS	40	F	0720.0	0731.5	14.0	11.0			
	6100	KISV	21	GRF	0726.0	0728.0	30.0	26.0			
	5200	BERN	20	GRF	0726.0	0734.0U	32.0	22.0			ONLY PAPER REC
	950	GORK	2	S/F	0727.4	0731.2	6.2	12.8			
	950	GORK	1	S	0825.0	0825.4	.5	12.0	6.0		
	650	GORK	4	S/F	0825.1	0825.3	.3	16.0			
	950	GORK	4	S/F	0828.1	0828.5	.9	21.0	10.0		
	650	GORK	4	S/F	0828.4	0828.9	1.2	20.0			
	113	POTS	42	SER	0837.5	0844.7	8.1	4200.0	80.0		III
	2650	DWIN	1	S	0840.0	0843.0	10.0	15.0	10.0		
	3000	POTS	4	S/F	0840.0	0841.0	5.0	16.0			
	3000	POTS			0840.0	0843.2		16.0			
	3200	BERN	22	GRF	0840.3	0841.2	10.0	9.0			ONLY PAPER REC
	5200	BERN	22	GRF	0840.3	0841.2	17.0	12.0			ONLY PAPER REC
	430	KRAK	40	F	0842.0	0842.8	3.0	28.0			
	6100	KISV	45	C	0850.0	0850.7	2.0	18.0			
	6100	KISV	20	GRF	0905.0	0910.5	25.0	22.0			
	430	KRAK	8	S	0909.0	0909.0	.1	25.0			
	2650	DWIN	2	S/F	0953.0	1000.0	10.0	20.0	10.0		
	430	KRAK	8	S	0954.7	0954.7	.2	21.0			
	3000	POTS	45	C	1051.0	1125.5	219.0	2440.0D			
	1470	POTS	46	C	1051.0	1141.9	219.0	1340.0			
	2950	GORK	45	C	1052.2	1105.3	52.5	240.0			
	2950	GORK			1052.2	1108.5		260.0			
	2950	GORK			1052.2	1125.0		1850.0			
	2950	GORK			1052.2	1135.9		1620.0			
	5200	BERN	47	GB	1052.5	1125.5U	170.0U	700.0D			ONLY PAPER REC
	3200	BERN	47	GB	1052.5	1125.5U	170.0U	600.0D			ONLY PAPER REC
	9500	POTS	45	C	1054.0	1124.5	216.0	1090.0			
	430	KRAK	49	GB	1054.5	1113.0	207.0D	640.0D	210.0		
	430	KRAK			1054.5	1132.0U		2000.0U			
	430	KRAK			1054.5	1140.2		4500.0U			
	430	KRAK			1054.5	1230.0U		650.0D			
	2650	DWIN	49	GB	1055.0	1130.0U	180.0	400.0D			
	6100	KISV	28	PRE	1058.0	1108.8	16.0	62.0			
	536	ONDR	49	GB	1058.5	1119.6	131.0	318.0	160.0		
	536	ONDR			1058.5	1140.0		306.0			
	536	ONDR			1058.5	1146.3		312.0			
	536	ONDR			1058.5	1226.8		169.0			
	950	GORK	46	C	1058.7	1110.5	111.0	300.0			
	950	GORK			1058.7	1116.3		323.0			
	950	GORK			1058.7	1122.2		380.0			
	950	GORK			1058.7	1140.5		480.0			
	950	GORK			1058.7	1227.1		1300.0			
	930	BORD			1058.8	1140.5		406.0			
	930	BORD	45	C	1058.8	1227.2	121.2	1179.0	13.0		
	810	KRAK	49	GB	1058.9	1121.1	130.0	520.0	100.0		
	810	KRAK			1058.9	1140.0		520.0			
	810	KRAK			1058.9	1206.8		650.0			
	808	ONDR			1059.0	1122.5		272.0			
	808	ONDR			1059.0	1140.7		303.0			
	808	ONDR	49	GB	1059.0	1227.4	101.0	465.0	188.0		
	650	GORK	47	GB	1059.1	1124.8	93.2	750.0			
	650	GORK			1059.1	1140.4		530.0			
	650	GORK			1059.1	1226.7		300.0			
	260	ONDR	49	GB	1100.0		58.0	175.0D	154.0		
	200	GORK	46	C	1101.2	1126.3	80.0	1300.0			
	200	GORK			1101.2	1133.9		5800.0			
	200	GORK			1101.2	1141.7		5600.0			
	234	POTS	49	GB	1102.5	1124.8	200.0	16000.0	340.0		IV
	3000	IZMI	47	GB	1102.5	1125.0	52.5	1608.0	660.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
18	9100	GORK	47	GB	1103.0	1124.3	46.7	1200.0			
	113	POTS	48	C	1105.0	1201.0	127.0	840.0	135.0		IV
	9400	HUAN	47	GB	1107.3	1124.4	26.0	1652.0	733.7		R
	6100	KISV	47	GB	1114.0	1124.5	70.0D	770.0			
	204	IZMI	46	C	1118.0	1132.2	40.0	1240.0	550.0		
	204	IZMI			1118.0	1142.0		1250.0			
	100	GORK	46	C	1118.9	1119.2	6.9	1400.0			
	100	GORK			1118.9	1121.1		2600.0			
	100	GORK			1118.9	1122.2		62000.0			
	127	TORN	27	RF	1120.0		78.0	900.0			
	29	UPIC	41	F	1123.6U	1201.1	88.2D				
	33	UPIC	41	F	1124.1U	1201.0	106.2D				
	100	GORK	27	RF	1129.0	1159.5	61.0	1800.0			
	9400	HUAN	29	PBI	1133.3	1133.3	131.5	1039.0	179.6		R
	260	ONDR	29	PBI	1158.0	1229.3	127.0	145.0	106.0		
	2800	OTTA	21	GRF	1215.0	1227.0	445.0D	65.0			
	2800	OTTA	8	S	1340.9	1341.0	.2	8.0			
	2800	OTTA	1	S	1437.0	1437.1	1.2	6.2	3.0		
	2800	OTTA	1	S	1539.0	1539.1	1.0	6.2	3.0		
	2800	OTTA	21	GRF	1600.0	1603.0	45.0	11.6	5.0		
	9400	HUAN	21	GRF	1600.1	1605.1	26.1	19.6	5.3		O
	2800	OTTA	1	S	1603.2	1603.7	1.0	4.4	2.2		
	9400	HUAN	1	S	1603.8	1604.3	1.0	24.5	14.7		O
	9400	HUAN	21	GRF	1721.4	1732.6	19.4	11.4	5.9		L
	9400	HUAN	4	S/F	1728.1	1729.7	3.9	34.3	17.8		L
	2800	OTTA	20	GRF	1830.0	1837.0	30.0	6.8	3.4		
	9400	HUAN	4	S/F	2036.2	2036.8	3.5	19.6	9.0		O
	9400	HUAN			2036.2	2038.7		13.1			O
	2000	TYKW	20	GRF	2210.0	2220.0	45.0	2.0	1.0		
	9400	TYKW	21	GRF	2210.0	2220.0	45.0	7.0	4.0		
	3750	TYKW	21	GRF	2210.0	2220.0	45.0	3.0	1.5		
	9400	TYKW	45	C	2223.7	2225.4	19.0	24.0	6.0		
	3750	TYKW	45	C	2225.0	2227.3	20.0	15.0	3.5		
	2695	PENT	26	FAL	2230.0	2255.0	25.0	7.8	3.9		
	9400	TYKW	45	C	2259.0	2300.2	4.0	12.0	4.0		
	9400	TYKW	30	PBI	2303.0		20.0	6.0	2.0		
	3750	TYKW	20	GRF	2305.0	2335.0	50.0	2.0	1.0		
	9400	TYKW	45	C	2312.0	2319.0	11.0	4.0	2.0		
19	200	GORK	44	NS	0435.0E		471.0D		15.0		
	100	GORK	44	NS	0440.0E		467.0D		10.0		
	204	IZMI	44	NS	0600.0E		360.0D	25.0			
	127	TORN	44	NS	0630.0E	1101.8	510.0D	580.0	34.0		V1
	260	ONDR	44	NS	0750.0E	1044.8	422.0D	111.0	8.0		
	536	ONDR	43	NS	0926.0		326.0D	45.0	16.0		
	245	PALE	43	NS	1655.0	0303.0	649.0	920.0			
	100	HIRA	44	NS	2047.0E	2123.0	665.0D	700.0	80.0		MR
	200	HIRA	44	NS	2047.0E	2138.0	665.0D	290.0	50.0		WR
	245	LEAR	43	NS	2205.0	0029.1	727.0	150.0			
	208	VORO	44	NS	2300.0E		240.0D		28.0		
	410	LEAR	43	NS	2341.0	0002.6	631.0	25.0			
	3750	TYKW	45	C	0012.0	0036.2	40.0	12.0	4.0		
	9400	TYKW	45	C	0031.0	0032.6	2.0	10.0	4.0		
	3750	TYKW	30	PBI	0052.0		85.0	3.0	1.5		
	2000	TYKW	45	C	0056.0	0058.2	4.0	12.0	1.0		
	3750	TYKW	5	S	0056.4	0056.7	.8	10.0	3.0		
	9400	TYKW	5	S	0056.6	0056.7	.6	13.0	3.0		
	1000	TYKW	8	S	0056.7	0056.8	.3	10.0	3.0		
	3750	TYKW	28	PRE	0057.5	0058.4	2.5	12.0	3.5		
	9400	TYKW	45	C	0057.7	0058.0	1.0	9.0	2.5		
	3750	TYKW	5	S	0100.0	0104.7	20.0	13.0	4.0		
	9400	TYKW	45	C	0101.0	0102.9	10.0	15.0	9.0		
	9400	TYKW	30	PBI	0111.0		70.0	6.0	3.0		
	3750	TYKW	29	PBI	0120.0		15.0	1.5	0.7		
	1000	TYKW	21	GRF	0120.0	0401.0	300.0	11.0	5.0		
	2000	TYKW	20	GRF	0125.0	0150.0	55.0	3.0	1.5		
	17000	NOBE	20	GRF	0139.6	0155.3	25.0	40.0			L
	3750	TYKW	5	S	0140.0	0140.6	1.5	1.5	0.5		
	3750	TYKW	21	GRF	0140.0	0202.0	35.0	4.0	2.0		
	9400	TYKW	45	C	0154.4	0154.9	9.6	52.0	15.0		
	9400	TYKW	29	PBI	0204.0		10.0	3.0	1.5		
	2000	TYKW	28	PRE	0230.0	0305.0U	35.0D	4.0D	2.0D		
	9400	TYKW	5	S	0231.0	0232.8	5.0	241.0	38.0		
	2000	TYKW	5	S	0232.0	0232.8	2.0	3.0	1.0		
	3750	TYKW	45	C	0232.0	0232.8	2.0	165.0	35.0		
	4995	MANI	3	S	0232.0	0232.5	1.3	280.0	93.3		
	2695	MANI	3	S	0232.0	0232.5	1.0	19.1	6.4		
	8800	MANI	3	S	0232.0	0232.5	1.3	252.4	84.1		
	17000	NOBE	3	S	0232.1	0232.7	1.2	210.0			L
	17000	NOBE	29	PBI	0233.3	0233.3	22.0	35.0			L
	3750	TYKW	30	PBI	0234.0		31.0	5.0	4.0		
	9400	TYKW	30	PBI	0236.0		32.0	15.0	9.0		
	2000	TYKW	8	S	0238.6	0238.8	.3	68.0	18.0		
	1000	TYKW	45	C	0245.0	0249.8	20.0	6.0	1.5		
	3750	TYKW	5	S	0247.0	0249.0	7.0	4.0	1.5		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
19	2000	TYKW	5	S	0248.0	0249.0	6.0	2.0	1.0		
	3750	TYKW	45	C	0305.0	0313.2	45.0	94.0	38.0		
	1000	TYKW	45	C	0306.0	0313.4	40.0	24.0	7.0		
	606	MANI	4	S/F	0307.5	0313.8	15.5	28.1	9.4		
	9400	TYKW	45	C	0308.0	0313.4	45.0	57.0	36.0		
	2000	TYKW	45	C	0308.0E	0313.5	27.0D	71.0	30.0D		
	1415	MANI	4	S/F	0308.2	0312.9	16.3	23.7	7.9		
	2695	MANI	4	S/F	0308.2	0313.0	16.1	67.8	22.6		
	4995	MANI	4	S/F	0308.4	0313.0	15.1	103.6	34.5		
	8800	MANI	4	S/F	0309.5	0313.0	10.0	64.6	21.5		
	2000	TYKW	29	PBI	0335.0		175.0	14.0	7.0		
	3750	TYKW	30	PBI	0350.0		160.0	20.0	9.0		
	9400	TYKW	30	PBI	0353.0		155.0	22.0	10.0		
	9400	TYKW	5	S	0400.0	0401.4	8.0	6.0	2.0		
	950	GORK		GRF	0505.0E		78.0D				
	650	GORK	22	GRF	0506.0E	0544.5	66.0D	10.0			
	2950	GORK	21	GRF	0506.0	0751.0	414.0	13.0			
	3750	TYKW	5	S	0549.0	0549.6	6.0	12.0	3.5		
	9400	TYKW	5	S	0603.0	0607.0U	12.0	4.0D	2.0D		
	3750	TYKW	45	C	0604.0	0607.7	13.0	10.0	3.5		
	2950	GORK	1	S	0606.6	0607.5	3.3	6.8			
	6100	KISV	4	S/F	0654.8	0655.6	3.0	65.0			
	9100	GORK	3	S	0654.8	0655.6	3.3	96.0	47.0		
	9400	TYKW	5	S	0655.0	0655.6	4.0	80.0	20.0		
	3750	TYKW	5	S	0655.0	0655.6	4.0	21.0	7.0		
	4995	MANI	3	S	0655.0	0655.5	1.5	42.0	14.0		
	8800	MANI	3	S	0655.0	0655.5	1.5	105.7	35.2		
	2695	MANI	3	S	0655.0	0655.5	1.5	4.2	1.4		
	5200	BERN	4	S/F	0655.1	0655.7	7.0	50.0			ONLY PAPER REC
	2950	GORK	1	S	0655.2	0655.7	1.2	6.8			
	606	MANI	8	S	0656.5	0656.6	.5	140.4	46.8		
	410	LEAR	8	S	0656.6	0656.6	.2	300.0			
	245	LEAR	8	S	0656.6	0656.8	.2	110.0			
	204	IZMI	8	S	0656.7	0656.7	.3	200.0	130.0		
	606	LEAR	8	S	0659.5	0659.6	.3	39.0			
	9500	POTS	22	GRF	0715.0	0717.0	10.0	8.0			
	8800	LEAR	8	S	0721.6	0721.8	.5	11.0			
	100	GORK	8	S	0737.4	0737.7	.7	8900.0			
	650	GORK	22	GRF	0839.6	1000.0	201.0D	23.0			
	29	UPIC	42	SER	0846.8	0921.6U	174.7				
	33	UPIC	42	SER	0847.0		175.2				
	950	GORK	20	GRF	0851.0U		190.0U				
	430	KRAK	41	F	0910.6	0911.3	8.8	40.0			
	430	KRAK	45	C	0919.7	0939.8	56.5	180.0	31.0		
	430	KRAK			0919.7	1001.0		200.0			
	9500	POTS	1	S	0921.0	0921.5	1.0	8.0			
	5200	BERN	1	S	0921.1	0921.6	1.5	12.0			ONLY PAPER REC
	9500	POTS	3	S	0941.0	0941.5	1.0	12.0			
	3200	BERN	8	S	0941.1	0941.5	.5	13.0			ONLY PAPER REC
	5200	BERN	8	S	0941.1	0941.5	.5	35.0			ONLY PAPER REC
	6100	KISV	8	S	0941.2	0941.4	.5	17.0			
	3000	POTS	20	GRF	1002.0	1006.0	12.0	17.0			
	1470	POTS	20	GRF	1003.0	1007.5	9.5	7.5			
	9500	POTS	28	PRE	1004.0	1020.0	36.0	108.0			
	2950	GORK	1	S	1004.5	1006.2	7.1	8.0			
	2650	DWIN	1	S	1005.0	1008.0	6.0	15.0	5.0		
	810	KRAK	41	F	1005.5	1007.9	6.6	28.0			
	930	BORD	41	F	1005.9	1007.7	3.0	72.0	4.0		
	808	ONDR	45	C	1006.6	1008.1	4.0	28.0	4.0		
	430	KRAK	30	PBI	1015.8		35.0D				
	11800	BERN	4	S/F	1018.0	1019.6	3.0	146.0			
	8400	BERN	4	S/F	1018.0	1019.6	3.0	85.0			
	19600	BERN	4	S/F	1018.0	1019.6	3.0	91.0			
	9100	GORK	3	S	1018.4	1019.6	3.2	98.0	46.0		
	6100	KISV	4	S/F	1018.5	1019.7	2.0	27.0			
	2650	DWIN	1	S	1019.0	1020.0	2.0	12.0	3.0		
	3000	POTS	3	S	1045.0	1047.0	7.0	22.0			
	2650	DWIN	1	S	1045.0	1047.0	2.0	14.0	5.0		
	2950	GORK	1	S	1045.4	1046.8	2.5	12.0	6.0		
	3100	CRIM	1	S	1045.5	1046.8	3.0	16.0	5.0		
	5200	BERN	4	S/F	1045.5	1047.0	9.5	31.0			ONLY PAPER REC
	3200	BERN	4	S/F	1045.5	1047.0	9.5	26.0			ONLY PAPER REC
	430	KRAK	27	RF	1049.4		90.0				
	234	POTS	4	S/F	1109.0	1109.2	.2	625.0	125.0		
	9500	POTS	22	GRF	1135.0	1208.5	75.0	20.0			
	6100	KISV	8	S	1141.0	1141.1	.3	12.0			
	9400	HUAN	2	S/F	1204.9	1205.6	1.5	11.8	8.7		0
	9400	HUAN	1	S	1207.6	1208.3	1.3	10.1	4.2		0
	9400	HUAN	2	S/F	1224.7	1226.5	2.9	8.4	7.0		0
	430	KRAK	49	GB	1224.8	1306.3	78.0	310.0	13.0		
	1470	POTS	20	GRF	1225.0	1226.7	4.0	3.8			
	410	SGMR	47	GB	1226.1	1226.6	.5D	32.0			
	3000	POTS	1	S	1226.5	1227.1	1.5	6.7			
	606	SGMR	8	S	1226.6	1227.0	.4D	18.0			
	606	SGMR	4	S/F	1301.0	1301.3	22.8	34.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
19	410	SGMR	4	S/F	1301.0	1302.8	27.1	119.0			
	2800	OTTA	20	GRF	1315.0	1330.0	35.0	3.8	2.0		
	9400	HUAN	20	GRF	1407.3	1411.3	18.4	13.5	3.4		D
	9400	HUAN	4	S/F	1445.6	1446.9	3.8	55.8	18.8		D
	9500	POTS	3	S	1446.0	1447.0	4.0	63.0			
	3000	POTS	3	S	1446.0	1447.9	4.0	14.0			
	5200	BERN	4	S/F	1446.2	1447.1	4.0	46.0			ONLY PAPER REC
	8800	SGMR	8	S	1446.3	1447.0	1.0	71.0			
	4995	SGMR	8	S	1446.3	1447.0	1.3	44.0			
	9400	HUAN	1	S	1506.2	1506.7	1.1	25.4	10.1		1
	15400	SGMR	8	S	1506.3	1506.8	.8	22.0			
	8800	SGMR	8	S	1506.8	1507.0	.3	30.0			
	9400	HUAN	4	S/F	1556.2	1557.8	6.6	27.0	13.2		D
	4995	SGMR	8	S	1556.8	1557.5	.8	18.0			
	8800	SGMR	8	S	1556.8	1557.8	1.5	37.0			
	4995	PALE	8	S	1708.0	1708.1	.3	30.0			
	2695	PALE	8	S	1708.0	1708.3	.3	30.0			
	8800	PALE	8	S	1708.1	1708.1	.2	39.0			
	15400	PALE	8	S	1708.1	1708.3	.4	36.0			
	410	PALE	8	S	1807.6	1807.8	.4	31.0			
	9400	HUAN	2	S/F	1821.8	1822.5	1.8	11.8	6.8		D
	2800	OTTA	260	FAL	1830.0	1910.0	40.0	6.6	3.3		
	8800	PALE	4	S/F	1918.1	1918.8	2.5	97.0			
	4995	PALE	8	S	1918.3	1918.8	.8	28.0			
	15400	PALE	8	S	1918.8	1918.8	.2	26.0			
	245	PALE	4	S/F	1937.8	1939.3	3.2	42.0			
	410	PALE	8	S	1938.5	1938.8	1.3	70.0			
	9400	HUAN	20	GRF	1945.2	1954.6	13.6	6.8	5.7		D
	410	PALE	47	GB	1946.6	1949.8	16.2	56.0			
	245	PALE	47	GB	1949.8	1949.8	13.0	130.0			
	606	PALE	4	S/F	1954.5	1954.8	8.3	13.0			
	410	PALE	47	GB	2001.3	2002.8	14.3	84.0			
	245	PALE	47	GB	2002.8	2003.3	14.3	200.0			
	410	PALE	47	GB	2017.1	2018.3	16.2	91.0			
	245	PALE	47	GB	2017.1	2018.8	16.2	360.0			
	9400	HUAN	21	GRF	2032.1	2041.2	24.5	10.1	4.8		D
	245	PALE	47	GB	2033.3	2035.0	19.3	330.0			
	9400	HUAN	4	S/F	2034.3	2035.3	4.1	32.1	17.8		L
	410	PALE	4	S/F	2034.6	2035.1	18.0	260.0			
	15400	PALE	4	S/F	2034.8	2035.3	17.8	42.0			
	1415	PALE	4	S/F	2034.8	2036.3	17.8	200.0			
	2800	OTTA	4	S/F	2035.0	2036.0	4.0	293.0			
	8800	PALE	4	S/F	2035.0	2035.1	17.6	26.0			
	2695	PALE	4	S/F	2035.0	2035.6	17.6	220.0			
	4995	PALE	4	S/F	2035.1	2035.1	17.5	11.0			
	245	PALE	47	GB	2052.6	2053.8	11.2	520.0			
	410	PALE	4	S/F	2053.6	2053.8	10.2	21.0			
	245	PALE	47	GB	2103.8	2110.5	18.0	470.0			
	245	PALE	47	GB	2121.8	2125.3	24.3	290.0			
	245	PALE	47	GB	2146.1	2148.8	12.7	100.0			
	3750	TYKW	21	GRF	2300.0	2330.0	70.0	4.0	2.0		
	9400	TYKW	5	S	2309.0	2309.7	2.0	9.0	3.0		
	2000	TYKW	20	GRF	2310.0	2330.0	50.0	2.0	1.0		
	9400	TYKW	45	C	2324.0	2326.7	5.0	38.0	16.0		
	8800	LEAR	4	S/F	2324.8	2326.6	4.2	44.0			
	8800	PALE	4	S/F	2324.8	2326.6	10.3	64.0			
	15400	PALE	8	S	2325.6	2326.6	1.2	21.0			
	3750	TYKW	5	S	2326.0	2326.7	2.0	6.0	2.0		
	4995	LEAR	8	S	2326.1	2326.6	1.2	13.0			
	4995	PALE	8	S	2326.3	2326.6	.8	22.0			
	4995	MANI	3	S	2326.3	2327.0	1.3	50.4	16.8		
	8800	MANI	3	S	2326.3	2327.0	1.3	42.9	14.3		
	9400	TYKW	29	PBI	2329.0		35.0	10.0	4.0		
	245	PALE	8	S	2336.0	2336.1	.3	119.0			
20	200	GORK	44	NS	0432.0E		471.0D		25.0		
	100	GORK	44	NS	0433.0E		468.0D		10.0		
	204	IZMI	43	NS	0600.0		360.0	60.0			
	127	TORN	44	NS	0630.0E		510.0D		22.0		V1
	260	ONDR	44	NS	0745.0E		405.0D	88.0	7.0		
	100	HIRA	44	NS	2045.0E	0246.0	670.0D	45.0	15.0		SR
	200	HIRA	44	NS	2048.0E	2200.0	665.0D	60.0	30.0		ML
	208	VORO	44	NS	2300.0E		240.0D		20.0		
	410	LEAR	8	S	0019.0	0019.3	.8	170.0			
	606	LEAR	8	S	0019.1	0019.3	.7	11.0			
	3750	TYKW	20	GRF	0050.0	0104.0	30.0	5.0	2.0		
	2000	TYKW	5	S	0100.0	0104.0	20.0	3.0	1.5		
	3750	TYKW	45	C	0122.0	0123.5	3.0	48.0	11.0		
	2000	TYKW	5	S	0122.0	0123.5	5.0	50.0	11.0		
	9400	TYKW	5	S	0122.0	0123.5	3.0	67.0	10.0		
	1000	TYKW	5	S	0122.0	0123.7	8.0	28.0	8.0		
	606	LEAR	8	S	0122.6	0123.1	1.4	330.0			
	4995	LEAR	8	S	0122.8	0123.5	1.3	54.0			
	2695	LEAR	8	S	0123.1	0123.5	2.0	56.0			
	8800	LEAR	8	S	0123.1	0123.5	.9	84.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
20	1415	LEAR	4	S/F	0123.1	0123.6	3.2	51.0			
	15400	LEAR	8	S	0123.3	0123.5	.5	28.0			
	4995	PALE	8	S	0123.3	0123.5	.3	41.0			
	8800	PALE	8	S	0123.3	0123.5	.3	72.0			
	1415	PALE	8	S	0123.3	0123.6	.8	48.0			
	2695	PALE	8	S	0123.3	0123.6	.5	43.0			
	606	PALE	8	S	0123.6	0123.8	.4	58.0			
	9400	TYKW	29	PBI	0125.0		6.0	4.0	2.0		
	3750	TYKW	29	PBI	0125.0		15.0	7.0	3.0		
	2000	TYKW	29	PBI	0127.0		13.0	4.0	2.0		
	1000	TYKW	29	PBI	0130.0		8.0	2.0	1.0		
	3750	TYKW	45	C	0146.0	0150.8	15.0	26.0	11.0		
	2000	TYKW	5	S	0146.0	0150.9	15.0	11.0	5.0		
	4995	LEAR	4	S/F	0147.8	0151.1	8.8	27.0			
	2695	LEAR	4	S/F	0148.6	0149.5	4.2	20.0			
	2000	TYKW	30	PBI	0201.0		40.0	3.0	1.5		
	3750	TYKW	29	PBI	0201.0		50.0	8.0	4.0		
	2000	TYKW	5	S	0209.0	0214.0	20.0	2.0	1.0		
	1000	TYKW	5	S	0233.0	0234.7	4.5	2.5	1.0		
	2000	TYKW	5	S	0234.0	0235.4	3.0	1.5	0.5		
	410	LEAR	8	S	0302.5	0302.6	.8	18.0			
	245	LEAR	47	GB	0302.8	0303.1	1.0	B60.0			
	9400	TYKW	5	S	0307.0	0307.7	3.0	6.0	2.0		
	3750	TYKW	5	S	0307.0	0307.7	3.0	1.5	0.5		
	3750	TYKW	45	C	0312.0	0328.9	43.0	112.0	34.0		
	9400	TYKW	45	C	0313.0	0329.0	42.0	46.0	16.0		
	2000	TYKW	45	C	0313.0	0329.0	42.0	88.0	25.0		
	500	HIRA	46	C	0314.0	0325.1	22.0	120.0	50.0		ML
	1000	TYKW	45	C	0314.0	0327.5	41.0	54.0	13.0D		
	2695	MANI	4	S/F	0314.3	0328.4	25.7	90.3	30.1		
	606	MANI	4	S/F	0315.0	0325.3	19.0	82.1	27.4		
	1415	MANI	4	S/F	0315.0	0327.8	25.0	62.6	20.9		
	4995	MANI	4	S/F	0315.0	0329.0	25.0	132.7	44.2		
	200	HIRA	46	C	0315.5	0327.1	31.0	80.0	24.0		WL
	200	HIRA			0315.5	0340.0		70.0			WL
	100	HIRA	46	C	0333.4	0340.3	40.0	135.0	76.0		WR
	100	HIRA			0333.4	0400.0		19.0			0
	9400	TYKW	30	PBI	0355.0		60.0	10.0	5.0		
	3750	TYKW	29	PBI	0355.0		105.0	13.0	6.0		
	1000	TYKW	30	PBI	0355.0		115.0	7.0	3.5		
	2000	TYKW	29	PBI	0355.0		125.0	8.0	4.0		
	1000	TYKW	45	C	0411.0	0413.6	8.0	15.0	2.0		
	1000	TYKW	45	C	0430.0	0445.3	40.0	8.0	2.0		
	9400	TYKW	5	S	0438.0	0438.4	5.0	15.0	5.0		
	9100	GORK	23	GRF	0500.0E	1029.4	420.0D	26.0			
	1000	TYKW	45	C	0527.0	0527.6	3.0	32.0	4.0		
	9400	TYKW	5	S	0542.5	0543.1	1.5	5.0	2.0		
	9400	TYKW	5	S	0553.0	0553.8	2.0	20.0	5.0		
	9100	GORK	1	S	0553.2	0553.8	1.2	20.0	10.0		
	1000	TYKW	45	C	0557.0	0557.4	.6	10.0	3.5		
	2950	GORK	1	S	0657.0	0657.5	1.7	7.9	3.8		
	3100	CRIM	1	S	0657.0	0657.8	1.0	10.0	2.0		
	1470	POTS	1	S	0713.0	0714.9	4.0	3.5			
	3100	CRIM	1	S	0713.0	0715.0	3.0	10.0	3.0		
	2950	GORK	21	GRF	0713.4	0718.0	37.0	3.0	1.5		
	2950	GORK	1	S	0714.4	0715.0	1.6	4.0	2.0		
	3000	POTS	1	S	0714.5	0715.0	2.0	7.2			
	2650	DWIN	1	S	0734.0	0734.0	1.0	12.0	4.0		
	3000	POTS	1	S	0734.0	0734.5	1.0	7.2			
	1470	POTS	1	S	0734.3	0734.5	.7	3.5			
	9100	GORK	1	S	0826.8	0828.5	1.7	16.0	8.0		
	930	BORD	46	C	0924.4	0924.8	.6	29.0	3.0		
	100	GORK	41	F	1047.4	1050.5	105.0	120.0D			
	100	GORK			1047.4	1057.0		120.0D			
	430	KRAK	8	S	1126.2	1126.4	.4	88.0			
	430	KRAK	8	S	1130.7	1130.8	.1	45.0			
	9500	POTS	23	GRF	1152.0	1152.7	104.0	.1			
	9400	HUAN	1	S	1203.3	1204.5	3.0	17.2	8.9		0
	430	KRAK	42	SER	1217.6	1247.4	97.0	170.0			
	430	KRAK			1217.6	1320.9		90.0			
	430	KRAK			1217.6	1349.4		80.0			
	234	POTS	4	S/F	1224.8	1225.0	.8	650.0	50.0		III
	9400	HUAN	21	GRF	1238.7	1244.7	15.0	20.4	8.1		0
	9400	HUAN	4	S/F	1242.2	1242.8	2.1	26.6	17.7		0
	930	BORD	4	S/F	1301.4	1301.5	1.6	46.0	1.0		
	113	POTS	42	SER	1310.0	1310.1	11.0	360.0	2.0		III
	2800	OTTA	21	GRF	1345.0	1525.0	360.0	18.6	9.0		
	2800	OTTA	1	S	1349.0	1351.0	5.0	5.8	2.8		
	2650	DWIN	1	S	1350.0	1350.0	2.0	10.0	3.0		
	9400	HUAN	21	GRF	1350.0	1440.8	270.0	40.7	13.0		L
	930	BORD	46	C	1419.6	1422.4	11.0	170.0	13.0		
	1470	POTS	4	S/F	1420.0	1423.0	6.0	54.0			
	2800	OTTA	40	F	1420.0	1424.0	20.0	7.0			
	2650	DWIN	1	S	1420.0	1424.0	4.0	10.0	3.0		
	9400	HUAN	4	S/F	1437.1	1438.7	3.3	150.3	60.0		0

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
20	9500	POTS	3	S	1438.0	1438.5	5.5	.3			
	5200	BERN	45	C	1438.1	1439.0	15.0U	69.0			ONLY PAPER REC
	9400	HUAN	4	S/F	1448.1	1450.3	3.2	81.4	38.6		L
	9500	POTS	4	S/F	1448.5	1450.0	4.5	.1			
	2800	OTTA	1	S	1449.5	1450.5	2.0	7.6	2.6		
	2650	DWIN	1	S	1450.0	1451.0	1.0	10.0	3.0		
	930	BORD	41	F	1508.0	1509.7	17.0	224.0	5.0		
	2800	OTTA	45	C	1508.0	1511.0	13.0	36.0	11.0		
	2650	DWIN	2	S/F	1508.0	1511.0	8.0	30.0	10.0		
	9400	HUAN	1	S	1545.2	1547.1	3.9	7.8	5.6		O
	9400	HUAN	4	S/F	1920.7	1922.0	5.1	56.4	26.6		L
	9400	HUAN	29	PBI	1925.8	1925.8	51.5	14.1	3.4		O
	2800	OTTA	21	GRF	2110.0	2130.0	50.0	6.2	3.1		
	2800	OTTA	3	S	2115.0	2117.0	7.0	12.2	6.0		
	9400	HUAN	1	S	2130.6	2131.4	1.9	28.2	13.4		O
	100	HIRA	45	C	2132.6	2133.2	.8	250.0	70.0		
	9400	TYKW	45	C	2258.0	2322.0	40.0	26.0	9.0		
	17000	NOBE	20	GRF	2312.0	2321.3	20.0	20.0			L
	2000	TYKW	21	GRF	2340.0	0045.0	160.0	7.0	3.5		
	1000	TYKW	21	GRF	2350.0	0055.0	160.0	4.0	1.5		
	1000	TYKW	45	C	2352.0	0020.5	50.0	14.0	3.0		
	2000	TYKW	45	C	2353.0	0013.7	35.0	17.0	2.0D		
21	100	GORK	44	NS	0508.0E		220.0D		5.0		
	200	GORK	44	NS	0509.0E		192.0D		5.0		
	127	TORN	44	NS	0630.0E	1109.3	510.0D	140.0	9.0		V1
	260	ONDR	44	NS	0740.0E	1254.8	430.0D	78.0	4.0		
	100	HIRA	44	NS	2049.0E	0548.0	660.0D	20.0	5.0		O
	200	HIRA	44	NS	2049.0E	2224.0	660.0D	8.0	4.0		WL
	245	LEAR	43	NS	2203.0	0945.6	730.0	190.0			
	208	VORO	44	NS	2300.0E		240.0D		10.0		
	9400	TYKW	21	GRF	0008.0	0030.0	100.0	16.0	7.0		
	9400	TYKW	5	S	0010.0	0011.3	10.0	14.0	8.0		
	9400	TYKW	45	C	0037.0	0043.3	25.0	31.0	9.0		
	9400	TYKW	45	C	0114.0	0115.4	10.0	10.0	3.0		
	1000	TYKW	45	C	0119.7	0120.5	2.0	10.0	4.0		
	9400	TYKW	5	S	0138.0	0139.5	6.0	14.0	4.0		
	208	VORO	4	S/F	0150.0	0151.0	4.0	120.0D			
	500	HIRA	45	C	0150.0	0150.4	2.0	600.0	250.0		WL
	4995	MANI	3	S	0150.4	0150.7	2.6	165.8	55.3		
	9400	TYKW	5	S	0150.5	0150.7	5.5	149.0	28.0		
	8800	MANI	3	S	0150.5	0150.7	2.0	110.3	36.8		
	17000	NOBE	1	S	0150.5	0150.7	2.0	67.0			R
	2695	MANI	3	S	0150.5	0150.9	4.0	90.9	30.3		
	1000	TYKW	5	S	0150.5	0151.0	9.5	35.0	12.0		
	1415	MANI	3	S	0150.5	0151.0	5.5	42.0	14.0		
	3750	TYKW	5	S	0150.5	0151.0	10.0	107.0	17.0		
	2000	TYKW	5	S	0150.5	0151.0	7.5	125.0	25.0		
	606	MANI	3	S	0150.5	0151.0	4.0	44.4	14.8		
	100	HIRA	42	SER	0150.7	0210.0	35.0	40000.0			O
	2000	TYKW	29	PBI	0158.0		10.0	5.0	2.0		
	1000	TYKW	30	PBI	0200.0		15.0	2.5	1.0		
	1000	TYKW	5	S	0210.0	0210.2	.5	2.0	0.5		
	1000	TYKW	45	C	0222.7	0222.8	1.0	91.0	9.0		
	1000	TYKW	5	S	0224.0	0224.3	.7	3.0	1.0		
	3750	TYKW	20	GRF	0230.0	0248.0	40.0	3.0	1.0		
	9400	TYKW	5	S	0313.0	0319.0	15.0	4.0	1.5		
	3750	TYKW	20	GRF	0315.0	0320.0	30.0	2.0	1.0		
	3750	TYKW	5	S	0349.5	0349.7	1.0	4.0	1.0		
	2000	TYKW	5	S	0349.5	0349.8	1.0	2.5	1.0		
	9400	TYKW	5	S	0349.6	0349.9	1.0	6.0	1.5		
	3750	TYKW	28	PRE	0351.0	0425.0	34.0	3.5	2.0		
	2000	TYKW	21	GRF	0351.0	0440.0	130.0	5.0	2.5		
	1000	TYKW	45	C	0354.0	0354.9	1.5	13.0	1.5		
	2000	TYKW	45	C	0354.3	0354.8	1.0	3.5	1.0		
	9400	TYKW	28	PRE	0400.0	0409.0	25.0	10.0	4.0		
	2000	TYKW	45	C	0425.0	0425.6	5.0	6.0	1.5		
	3750	TYKW	5	S	0425.0	0426.6	5.0	19.0	9.0		
	9400	TYKW	45	C	0425.0	0427.4	5.0	74.0	24.0		
	4995	MANI	3	S	0425.7	0427.0	3.3	39.9	13.3		
	8800	MANI	3	S	0425.7	0427.0	3.3	63.1	21.0		
	17000	NOBE	1	S	0426.0	0427.3	4.0	25.0			O
	9400	TYKW	30	PBI	0430.0		85.0	13.0	5.0U		
	3750	TYKW	30	PBI	0430.0		90.0	8.0	4.0		
	3750	TYKW	20	GRF	0430.0	0440.0	35.0	2.0	1.0		
	9400	TYKW	45	C	0434.0	0437.7	15.0	12.0	5.0		
	9100	GORK	23	GRF	0455.0E	0621.6	420.0D	50.0			
	9100	GORK	1	S	0530.8	0531.1	.9	18.0	9.0		
	9400	TYKW	5	S	0601.7	0601.9	.5	20.0	6.0		
	650	GORK	20	GRF	0610.9	0617.7	144.0	6.5			
	9400	TYKW	45	C	0612.0	0654.6	65.0D	64.0	18.0D		
	3750	TYKW	45	C	0612.0	0658.6	65.0D	15.0	4.0D		
	6100	KISV	28	PRE	0613.5	0618.2	5.0	18.0			
	2000	TYKW	45	C	0615.0	0658.6	50.0D	8.0	1.5D		
	9100	GORK	46	C	0616.2	0618.2	3.1	35.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
21	9100	GORK			0616.2	0618.7		26.0			
	1000	TYKW	5	S	0617.0	0617.3	1.0	4.0	1.0		
	6100	KISV	8	S	0618.5	0618.7	.5	187.0			
	6100	KISV	4	S/F	0648.0	0648.5	2.0	12.0			
	2950	GORK	20	GRF	0651.3	0652.5	26.6	8.6			
	9500	POTS	22	GRF	0653.0E	0654.5	72.0D	54.0			
	9100	GORK	3	S	0654.0	0654.5	2.7	40.0			
	17000	NOBE	1	S	0654.0	0654.6	1.5	40.0			0
	2950	GORK	1	S	0739.0	0739.7	1.1	6.9	3.4		
	1000	TYKW	45	C	0739.2	0739.6	1.0	455.0	40.0		
	930	BORD	41	F	0739.2	0739.7	1.0	305.0	7.0		
	6100	KISV	2	S/F	0739.2	0739.7	1.0	10.0			
	6100	KISV	2	S/F	0744.3	0744.7	.6	5.0			
	930	BORD	8	S	0744.7	0744.7	.1	164.0	1.0		
	430	KRAK	42	SER	0802.3	0823.7	136.0	380.0			
	430	KRAK			0802.3	0830.8		200.0			
	430	KRAK			0802.3	0948.4		110.0			
	810	KRAK	42	SER	0807.4	0824.3	35.0	45.0			
	810	KRAK			0807.4	0842.3		20.0			
	113	POTS	4	S/F	0859.5	0900.0	.7	310.0	40.0		
	113	POTS	41	F	0917.9	0919.4	1.6	200.0	4.0		
	9500	POTS	22	GRF	0920.0	0926.0	45.0	10.0			
	204	IZMI	8	S	0921.8	0921.8	.2	200.0	170.0		
	9100	GORK	1	S	1009.2	1010.1	1.6	25.0			
	9500	POTS	29	PBI	1009.5	1010.0	5.5	33.0			
	2650	DWIN	1	S	1017.0	1017.0	1.0	20.0	5.0		
	930	BORD	41	F	1018.0	1018.1	.2	68.0	1.0		
	2950	GORK	20	GRF	1018.0	1018.2	14.0	6.0	3.0		
	810	KRAK	8	S	1018.0	1018.2	.4	1300.0			
	9500	POTS	1	S	1018.0	1018.5	1.0	8.3			
	9500	POTS	20	GRF	1033.0	1035.1	7.0	10.0			
	9500	POTS	23	GRF	1105.0	1123.0	50.0	31.0			
	9100	GORK	1	S	1122.3	1122.8	1.4	20.0	10.0		
	6100	KISV	3	S	1122.4	1123.0	1.0	7.0			
	536	ONDR	42	SER	1146.0	1255.0	167.0	72.0			
	9400	HUAN	20	GRF	1224.4	1226.6	11.4	9.8	6.6		0
	9500	POTS	20	GRF	1225.0	1226.6	10.0	21.0			
	430	KRAK	41	F	1244.5	1250.6	7.6	24.0			
	9400	HUAN	23	GRF	1250.1	1340.5	144.8	43.9	13.8		R
	9500	POTS	23	GRF	1251.0	1304.7	29.0	48.0			
	9400	HUAN	4	S/F	1251.8	1253.5	3.0	34.1	23.2		R
	9400	HUAN	2	S/F	1300.6	1301.6	2.0	19.5	7.0		R
	5200	BERN	45	C	1300.7	1305.0	8.0	31.0			ONLY PAPER REC
	2800	OTTA	3	S	1303.0	1305.2	5.0	33.0	11.0		
	3000	POTS	3	S	1303.5	1305.2	4.5	29.0			
	2650	DWIN	1	S	1304.0	1305.0	2.0	30.0	10.0		
	9400	HUAN	4	S/F	1304.0	1304.8	2.7	40.6	14.6		R
	3200	BERN	4	S/F	1304.2	1305.3	4.5	26.0			ONLY PAPER REC
	1470	POTS	3	S	1304.5	1305.5	4.0	12.0			
	810	KRAK	40	F	1305.4	1305.6	2.1	35.0			
	930	BORD	45	C	1320.0	1323.3	6.0	37.0	5.0		
	2800	OTTA	23	GRF	1320.0	1342.0	210.0	26.0	5.0		
	1470	POTS	22	GRF	1321.0	1341.5	64.0	15.0			
	3000	POTS	22	GRF	1322.0	1336.0	94.0	38.0			
	810	KRAK	2	S/F	1322.0	1336.2	14.5	21.0	7.0		
	430	KRAK	4	S/F	1322.1	1324.1	4.1	52.0	5.0		
	3200	BERN	20	GRF	1323.0	1336.1	57.0	33.0			ONLY PAPER REC
	5200	BERN	20	GRF	1323.0	1341.7U	57.0	38.0			ONLY PAPER REC
	9500	POTS	20	GRF	1325.0	1339.5	75.0	42.0			
	2650	DWIN	2	S/F	1330.0	1337.0	U	35.0			
	410	SGMR	4	S/F	1332.0	1334.0	11.0D	45.0			
	810	KRAK	4	S/F	1332.7	1335.2	7.6	20.0	5.0		
	430	KRAK	45	C	1332.7	1335.4	17.2	80.0	12.0		
	245	SGMR	4	S/F	1333.0	1334.1	4.0D	76.0			
	245	SGMR	4	S/F	1333.0	1334.1	10.0D	76.0			
	1415	SGMR	4	S/F	1333.3	1334.8	13.7D	13.0			
	8800	SGMR	4	S/F	1334.0	1337.5	13.5	17.0			
	2800	OTTA	3	S	1334.2	1336.0	3.0	12.6	6.3		
	930	BORD	40	F	1335.0E	1335.5	12.0D	23.0	11.0		
	9400	HUAN	22	GRF	1600.3	1639.5	44.9	16.2	7.3		0
	2800	OTTA	3	S	1615.0	1617.5	15.0	18.2	5.0		
	7000	SAOP	4	S/F	1719.4	1723.3	5.4	63.0	31.0		0
	9400	HUAN	4	S/F	1720.7	1723.5	3.6	53.6	27.2		0
	2800	OTTA	40	F	1722.5	1722.7	1.2	26.0			
	9400	HUAN	29	PBI	1724.3	1724.3	20.4	24.4	8.6		0
	7000	SAOP	29	PBI	1725.0		13.3	19.0	9.0		
	2800	OTTA	1	S	1850.0	1853.0	4.5	7.8	3.6		
	3750	TYKW	21	GRF	2227.0	2300.0	B5.0	3.0	1.5		
	2000	TYKW	20	GRF	2228.0	2240.0	60.0	2.0	1.0		
	9400	TYKW	45	C	2258.0	2259.8	7.0	12.0	6.0		RAIN
	9400	TYKW	45	C	2306.0	2307.0	6.0	425.0	10.0		
	3750	TYKW	45	C	2306.0	2307.3	3.0	40.0	13.0		
	8800	MANI	3	S	2306.0	2307.0	3.3	440.0	146.7		
	17000	NOBE	7	C	2306.5	2306.9	3.0	286.0			R
	3750	TYKW	30	PBI	2309.0		40.0	6.0	3.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
21	9400	TYKW	29	PBI	2312.0		35.0U	13.0	5.0U		
	3750	TYKW	5	S	2313.0	2314.6	15.0	7.0	3.0		
	3750	TYKW	21	GRF	2348.0	0043.0	145.0	14.0	7.0		
22	200	GORK	44	NS	0514.0E		409.0D		5.0		
	127	TORN	44	NS	0630.0E	1137.5	510.0D	30.0	4.0		VO
	260	ONDR	44	NS	0750.0E	0946.0	403.0D	101.0	3.0		
	245	SGMR	43	NS	1109.0	1209.6	186.0	74.0			
	245	SGMR	43	NS	1551.8	1719.0	188.2D	43.0			
	245	PALE	43	NS	2000.0	2038.0	469.0	70.0			
	245	LEAR	43	NS	2203.0	0046.8	731.0	42.0			
	208	VORO	44	NS	2300.0E		240.0D		11.0		
	3750	TYKW	5	S	0002.3	0003.0	1.5	7.0	3.0		RAIN
	3750	TYKW	21	GRF	0037.0	0040.0	75.0	2.0	1.0		
	1000	TYKW	45	C	0039.0	0039.4	2.5	2.0	0.7		
	200	HIRA	42	SER	0044.4	0049.3	5.7	1100.0			WL
	3750	TYKW	45	C	0045.0	0045.7	3.0	10.0	4.0		
	2000	TYKW	5	S	0045.0	0045.9	3.0	10.0	4.0		
	9400	TYKW	45	C	0045.0	0046.3	3.0	23.0	11.0		RAIN
	1000	TYKW			0045.0	0046.3		10.0			
	1000	TYKW	45	C	0045.0	0049.6	9.0	12.0	3.0		
	9400	TYKW	30	PBI	0048.0		15.0U	4.0	2.0U		
	3750	TYKW	30	PBI	0048.0		10.0	1.0	0.5		
	2000	TYKW	30	PBI	0048.0		15.0	1.5	0.7		
	9400	TYKW	45	C	0049.0	0049.5	8.0	25.0	7.0		
	3750	TYKW	45	C	0049.0	0049.6	6.0	24.0	3.5		
	2000	TYKW	5	S	0049.0	0049.6	2.0	16.0	7.0		
	606	MANI	1	S	0049.2	0049.7	1.3	5.5	1.8		
	1415	MANI	3	S	0049.4	0049.7	1.1	18.2	6.0		
	2695	MANI	3	S	0049.5	0049.7	1.0	25.5	8.5		
	4995	MANI	3	S	0049.5	0049.7	1.0	69.0	25.0		
	2000	TYKW	29	PBI	0051.0		7.0	1.5	0.7		
	3750	TYKW	28	PRE	0100.0	0102.0	9.0	3.0	1.5		
	3750	TYKW	45	C	0109.0	0110.0	25.0	8.0	4.5		
	9100	GORK	23	GRF	0506.0E	0648.5	140.0D	30.0			
	9100	GORK	1	S	0541.8	0542.9	1.5	18.0	9.0		
	9100	GORK	2	S/F	0626.4	0628.5	4.1	24.0			
	6100	KISV	1	S	0626.5	0626.8	1.0	5.0			
	6100	KISV	1	S	0628.2	0628.5	2.0	6.0			
	8800	MANI	47	GB	0638.6	0639.8	4.8	751.1	250.4		
	9400	TYKW	47	GB	0639.0	0640.4	5.0	520.0U	125.0U		RAIN
	3750	TYKW	5	S	0639.0	0641.0	10.0	9.0	3.0		
	4995	MANI	3	S	0639.0	0639.5	3.6	49.8	16.6		
	9100	GORK	3	S	0639.0	0640.3	7.0	630.0			
	6100	KISV	8	S	0639.3	0640.3	3.5	106.0			
	17000	NOBE	47	GB	0639.7	0640.2	4.0	1630.0			R
	606	MANI	4	S/F	0639.7	0641.0	2.5	31.9	10.6		
	2950	GORK	1	S	0640.4	0640.5	2.2	2.6	1.3		
	9400	TYKW	29	PBI	0644.0		11.0U	22.0U	11.0U		
	9100	GORK	22	GRF	0836.5	0913.4	98.5	18.0			
	2950	GORK	1	S	0842.6	0843.9	4.0	3.0	1.5		
	3100	CRIM	1	S	0908.6	0910.8	5.0	9.0	3.0		
	3200	BERN	1	S	0908.7	0910.7	9.0	13.0			ONLY PAPER REC
	5200	BERN	1	S	0908.7	0910.7	9.0	18.0			ONLY PAPER REC
	3000	POTS	29	PBI	0909.0	0911.0	61.0	10.0			
	2950	GORK	1	S	0909.0	0910.7	8.2	8.8	4.0		
	9500	POTS	29	PBI	0912.5	0913.0	33.0	12.0			
	3100	CRIM	26	FAL	0924.0	1125.0		11.0			
	5200	BERN	1	S	1007.2	1007.7	1.0	11.0			ONLY PAPER REC
	3200	BERN	1	S	1007.2	1007.7	1.0	10.0			ONLY PAPER REC
	430	KRAK	42	SER	1054.4	1055.0	12.7	56.0			
	930	BORD	8	S	1103.8	1103.8	.2	19.0	2.0		
	7000	SAOP	4	S/F	1216.7	1217.7	1.5	23.0	11.0		
	2650	DWIN	1	S	1217.0	1217.0	1.0	10.0	3.0		
	3000	POTS	3	S	1217.0	1217.5	1.5	11.0			
	9400	HUAN	2	S/F	1217.1	1217.8	1.8	10.2	6.4		O
	9500	POTS	1	S	1217.2	1217.8	1.3	6.0			
	7000	SAOP	29	PBI	1218.2	1220.4	4.7	8.0	4.0		
	2650	DWIN	1	S	1235.0	1236.0	2.0	15.0	5.0		
	7000	SAOP	28	PRE	1248.4		2.6	8.0	4.0		
	3000	POTS	20	GRF	1248.5	1249.7	3.0	7.5			
	1470	POTS	20	GRF	1248.5	1250.0	3.0	2.5			
	9500	POTS	28	PRE	1248.5	1251.5	4.5	20.0			
	2800	OTTA	2	S/F	1249.0	1249.6	2.0	3.8			
	2650	DWIN	1	S	1249.0	1250.0	1.0	10.0	3.0		
	7000	SAOP	4	S/F	1250.0	1250.4	1.2	26.0	13.0		12R
	9400	HUAN	1	S	1251.1	1251.7	1.6	15.3	6.7		R
	7000	SAOP	29	PBI	1252.2		2.1	10.0	5.0		
	930	BORD	41	F	1334.7	1334.7	.4	28.0	2.0		
	7000	SAOP	45	C	1451.5	1453.8	4.0	106.0	53.0		2R
	9500	POTS	4	S/F	1452.5	1453.7	4.0	73.0			
	8800	SGMR	4	S/F	1452.5	1453.8	3.1D	119.0			
	4995	SGMR	8	S	1453.0	1453.8	1.3	31.0			
	7000	SAOP	29	PBI	1455.5	1503.5	15.8	43.0	21.0		
	8800	SGMR	4	S/F	1502.5	1503.5	3.1D	19.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
22	4995	SGMR	4	S/F	1503.3	1504.3	2.8	16.0			
	7000	SAOP	28	PRE	1602.6		1.3	7.0	3.0		
	7000	SAOP	3	S	1605.0	1605.7	1.8	20.0	10.0		21R
	7000	SAOP	29	PBI	1606.8		8.2	10.0	5.0		
	7000	SAOP	4	S/F	1701.6	1705.0	5.3	31.0	15.0		20R
	7000	SAOP	29	PBI	1706.8		7.2	16.0	8.0		
	7000	SAOP	3	S	1732.3		2.5	12.0	6.0		0
	7000	SAOP	29	PBI	1734.7		3.2	6.0	3.0		
	7000	SAOP	3	S	1927.3	1928.2	2.0	31.0	15.0		8L
	9400	HUAN	4	S/F	1927.5	1928.2	1.8	49.2	22.6		R
	7000	SAOP	29	PBI	1929.3		13.6	22.0	11.0		
	8800	PALE	8	S	2027.0	2027.5	3.8	50.0			
	9400	HUAN	4	S/F	2027.1	2027.6	1.7	32.2	16.4		R
	4995	PALE	8	S	2027.3	2027.3	.3	20.0			
	9400	HUAN	29	PBI	2028.8	2028.8	25.5	10.2	6.1		0
	15400	PALE	8	S	2032.5	2032.6	.1	20.0			
	3750	TYKW	21	GRF	2245.0	2320.0	75.0	6.0	4.0		
	9400	TYKW	21	GRF	2245.0	2320.0	75.0	12.0	5.0		
	1000	TYKW	45	C	2249.0	2250.7	2.5	16.0	3.5		
	2000	TYKW	20	GRF	2250.0	2320.0	70.0	3.0	1.5		
	3750	TYKW	5	S	2254.0	2255.4	6.0	6.0	2.0		
	9400	TYKW	5	S	2254.5	2255.3	2.5	15.0	6.0		
	4995	LEAR	4	S/F	2254.8	2255.3	6.5	19.0			
	8800	LEAR	4	S/F	2254.8	2255.3	6.5	29.0			
	2695	LEAR	4	S/F	2254.8	2255.5	6.5	06.0			
	15400	LEAR	4	S/F	2254.8	2255.5	6.5	08.0			
	9400	TYKW	5	S	2326.5	2327.0	1.5	7.0	2.0		
23	410	LEAR	43	NS	0436.8	0442.1	337.2D	38.0			
	200	GORK	44	NS	0517.0E		397.0D		5.0		
	260	ONDR	44	NS	0753.0E		405.0D	88.0	6.0		
	127	TORN	43	NS	1306.0		100.0		3.0		VO
	245	LEAR	43	NS	2202.0	0621.5	732.0D	96.0			
	208	VORO	44	NS	2300.0E		240.0D		9.0		
	1000	TYKW	45	C	0025.0	0026.6	10.0	19.0	2.5		
	2000	TYKW	45	C	0025.0	0026.8	7.0	18.0	4.5		
	3750	TYKW	45	C	0025.0	0030.0	7.0	14.0	.5		
	2695	LEAR	8	S	0026.3	0026.8	1.0	10.0			
	1415	PALE	8	S	0026.5	0026.8	.5	24.0			
	1415	LEAR	4	S/F	0026.5	0026.8	2.1	24.0			
	9400	TYKW	45	C	0027.0	0030.0	7.0	9.0	2.5		
	2000	TYKW	30	PBI	0032.0		65.0	1.5	0.7		
	3750	TYKW	30	PBI	0032.0		65.0	3.0	1.5		
	3750	TYKW	45	C	0103.0	0104.6	25.0	4.0	1.5		
	2000	TYKW	45	C	0104.0	0104.3	1.0	8.0	3.5		
	1000	TYKW	45	C	0104.0	0104.9	2.0	27.0	8.0		
	1415	PALE	8	S	0104.6	0104.6	.2	38.0			
	1415	LEAR	8	S	0104.6	0104.6	.2	36.0			
	2000	TYKW	29	PBI	0105.0		30.0	3.0	2.0		
	9400	TYKW	5	S	0154.0	0154.4	15.0	8.0	3.0		
	606	LEAR	8	S	0159.8	0200.5	1.0	68.0			
	606	PALE	8	S	0200.1	0200.5	.7	55.0			
	3750	TYKW	28	PRE	0230.0	0231.0	8.0	2.0	1.5		
	9400	TYKW	45	C	0235.0	0239.7	10.0	43.0	13.0		
	8800	LEAR	47	GB	0236.6	0236.6	9.5	17.0			
	4995	LEAR	47	GB	0237.1	0237.1	9.0	06.0			
	3750	TYKW	5	S	0238.0	0239.9	4.0	37.0	14.0		
	8800	MANI	3	S	0238.5	0239.9	5.0	71.0	23.7		
	4995	MANI	3	S	0238.5	0240.0	4.5	66.3	22.1		
	4995	PALE	4	S/F	0238.8	0239.8	2.7	50.0			
	2000	TYKW	45	C	0239.0	0240.6	3.0	3.0	0.7		
	8800	PALE	4	S/F	0239.1	0239.6	2.4	54.0			
	2695	MANI	3	S	0239.3	0239.9	2.2	17.6	5.9		
	2695	LEAR	8	S	0240.0	0240.1	.1	09.0			
	15400	LEAR	4	S/F	0240.0	0240.1	2.6	09.0			
	3750	TYKW	29	PBI	0242.0		13.0	9.0	3.5		
	9400	TYKW	29	PBI	0245.0		25.0	8.0	3.5		
	1000	TYKW	5	S	0312.0	0313.1	2.0	4.0	1.0		
	1415	PALE	4	S/F	0323.1	0325.8	5.5	16.0			
	2695	PALE	8	S	0340.5	0341.3	1.1	31.0			
	606	LEAR	8	S	0430.0	0430.1	.3	35.0			
	650	GORK	20	GRF	0619.3		60.7	2.6			
	430	KRAK	42	SER	0903.4	0907.9	20.8	48.0			
	430	KRAK			0903.4	0915.1		100.0			
	430	KRAK	41	F	1042.0	1045.1	5.0	42.0			
	9400	HUAN	21	GRF	1211.2	1237.6	40.9	6.5	3.4		0
	7000	SAOP	4	S/F	1234.0	1236.1	2.6	111.0	55.0		18R
	3200	BERN	3	S	1234.2	1236.3	22.0	43.0			ONLY PAPER REC
	5200	BERN	4	S/F	1234.2	1236.3	22.0	117.0			ONLY PAPER REC
	4995	SGMR	4	S/F	1234.3	1236.1	3.3D	130.0			
	9400	HUAN	4	S/F	1234.6	1235.4	2.3	42.3	26.2		R
	9400	HUAN			1234.6	1235.8		43.1			R
	15400	SGMR	8	S	1234.8	1236.1	1.8D	40.0			
	2800	OTTA	3	S	1235.0	1236.2	2.5	20.0	11.0		
	8800	SGMR	8	S	1235.1	1235.3	1.2D	37.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
23	2695	SGMR	8	S	1235.1	1236.1	1.2D	24.0			
	1415	SGMR	8	S	1235.5	1236.1	.6	34.0			
	7000	SAOP	29	PBI	1236.7	1236.7	5.5	29.0	14.0		
	9500	POTS	3	S	1237.0	1238.8	3.5	42.0			
	3000	POTS	4	S/F	1237.3	1238.8	2.7	27.0			
	1470	POTS	4	S/F	1237.7	1239.0	2.1	30.0			
	430	KRAK	42	SER	1254.1	1307.8	53.0	34.0			
	430	KRAK			1254.1	1344.3		38.0			
	127	TORN	4	S/F	1347.7	1348.3	1.3	70.0	40.0		
	9400	HUAN	21	GRF	1754.2	1758.1	14.1	16.2	6.7		0
	7000	SAOP	20	GRF	1754.8		21.4	22.0	11.0		0
	8800	PALE	4	S/F	1756.6	1759.6	6.7	46.0			
	8800	SGMR	4	S/F	1757.1	1759.5	4.7	21.0			
	15400	SGMR	4	S/F	1757.1	1759.5	3.5	26.0			
	15400	PALE	4	S/F	1757.6	1759.6	2.7	63.0			
	9400	HUAN	4	S/F	1758.6	1759.3	2.7	13.0	5.4		0
	4995	PALE	8	S	1759.3	1759.6	.5	18.0			
	9400	TYKW	5	S	2259.0	2300.0	3.0	12.0	4.0		
	17000	NOBE	1	S	2259.3	2300.0	2.0	29.0			0
	8800	LEAR	8	S	2259.5	2300.0	1.1	13.0			
	15400	LEAR	8	S	2259.5	2300.1	1.3	28.0			
	410	PALE	4	S/F	2319.8	2321.8	2.7	27.0			
	2000	TYKW	20	GRF	2320.0	2340.0	130.0	4.0	2.0		
	9400	TYKW	21	GRF	2320.0	2357.0	100.0	8.0	3.0		
	3750	TYKW	20	GRF	2320.0	2359.0	150.0	6.0	3.0		
	15400	PALE	8	S	2356.3	2357.3	2.0	20.0			
24	410	LEAR	43	NS	0635.1	0747.8	218.9	21.0			
	260	ONDR	44	NS	0750.0E	1337.0	407.0D	71.0			
	245	SGMR	43	NS	1112.0	1336.1	468.0D	139.0			
	245	PALE	43	NS	1715.0	1829.3	633.0	110.0			
	245	LEAR	43	NS	2201.0	0303.5	734.0	90.0			
	208	VORO	44	NS	2300.0E		240.0D		.9		
	410	LEAR	43	NS	2313.1	0939.3	661.9	71.0			
	9400	TYKW	5	S	0009.0	0011.0	8.0	5.0	2.0		
	606	LEAR	47	GB	0104.3	0104.5	.3	510.0			
	606	PALE	47	GB	0104.5	0104.6	.1	780.0			
	15400	PALE	8	S	0141.1	0141.6	1.2	36.0			
	8800	PALE	8	S	0141.3	0142.1	.8	33.0			
	2695	PALE	8	S	0141.3	0142.1	8.0	22.0			
	2000	TYKW	20	GRF	0150.0	0156.0	120.0	2.0	1.0		
	3750	TYKW	21	GRF	0155.0	0204.0	120.0	4.0	2.0		
	410	PALE	8	S	0213.1	0213.3	.4	150.0			
	410	LEAR	8	S	0213.1	0214.0	1.9	150.0			
	606	LEAR	8	S	0213.6	0214.0	.5	57.0			
	606	PALE	8	S	0213.8	0214.0	.5	47.0			
	3750	TYKW	20	GRF	0250.0	0258.0	55.0	1.5	0.7		
	15400	PALE	4	S/F	0309.8	0312.0	6.2	82.0			
	8800	PALE	8	S	0310.0	0310.1	.3	23.0			
	3750	TYKW	20	GRF	0420.0	0430.0	50.0	2.0	1.0		
	2000	TYKW	20	GRF	0425.0	0430.0	45.0	1.5	0.7		
	17000	NOBE	1	S	0441.9	0442.5	1.2	83.0			0
	9400	TYKW	5	S	0442.0	0442.4	2.0	43.0	12.0		
	8800	LEAR	8	S	0442.0	0442.3	.8	47.0			
	15400	LEAR	8	S	0442.1	0442.3	.7	78.0			
	9400	TYKW	29	PBI	0444.0		8.0	4.0	2.0		
	3750	TYKW	45	C	0545.0	0547.9	8.0	6.0	1.5		
	2000	TYKW	45	C	0545.0	0548.2	8.0	5.0	2.0		
	2950	GORK	1	S	0547.0	0548.0	3.6	4.7	2.3		
	2695	LEAR	4	S/F	0547.1	0547.8	4.9	13.0			
	606	LEAR	8	S	0547.3	0547.8	1.8	28.0			
	9400	TYKW	5	S	0610.0	0613.3	10.0	10.0	2.5		
	9100	GORK	20	GRF	0611.0	0613.4	11.7	15.0	7.0		
	9400	TYKW	5	S	0621.0	0621.4	1.0	7.0	2.0		
	6100	KISV	3	S	0621.0	0621.5	1.0	4.0			
	9400	TYKW	5	S	0633.5	0634.1	1.5	5.0	1.5		
	9500	POTS	1	S	0723.5	0723.7	.9	8.0			
	410	LEAR	8	S	0747.8	0747.8	.5	21.0			
	9500	POTS	22	GRF	0806.0	0808.2	25.0	15.0			
	9100	GORK	20	GRF	0806.6	0808.3	9.6	19.0	9.0		
	430	KRAK	8	S	0824.8	0824.9	.2	24.0			
	810	KRAK	8	S	0825.9	0826.1	.6	45.0			
	245	LEAR	8	S	0828.3	0828.8	.7	33.0			
	606	LEAR	8	S	0828.3	0828.8	.5	53.0			
	930	BORD	41	F	0828.4	0828.6	.5	22.0	3.0		
	430	KRAK	8	S	0843.3	0843.3	.1	220.0			
	9500	POTS	3	S	0930.0	0931.0	3.0	19.0			
	9100	GORK	3	S	0930.2	0931.0	6.0	34.0	17.0		
	6100	KISV	4	S/F	0930.5	0931.0	1.0	9.0			
	430	KRAK	8	S	1040.8	1040.8	.1	330.0			
	9100	GORK	20	GRF	1043.7	1050.2	13.0	15.0	7.0		
	9500	POTS	1	S	1128.0	1128.2	1.5	6.0			
	9500	POTS	20	GRF	1220.0	1227.5	15.0	10.0			
	9400	HUAN	20	GRF	1220.4	1227.0	28.7	8.4	2.7		0
	430	KRAK	2	S/F	1240.7	1241.7	2.0	68.0	8.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
24	9500	POTS	1	S	1255.0	1257.5	5.0	10.0			
	430	KRAK	8	S	1334.9	1334.9	.1	40.0			
	234	POTS	4	S/F	1337.5	1337.6	.3	150.0	15.0		III
	113	POTS	4	S/F	1337.5	1337.6	.9	280.0	20.0		III
	9500	POTS	1	S	1349.8	1350.3	1.7	6.0			
	2800	OTTA	1	S	1418.0	1421.0	6.0	3.2	1.4		
	7000	SAOP	3	S	1419.5	1420.7	2.1	13.0	6.0		13R
	7000	SAOP	29	PBI	1421.6		4.8	6.0	3.0		
	9400	HUAN	1	S	1439.7	1440.3	1.5	15.2	6.3		R
	7000	SAOP	3	S	1517.2	1518.2	1.6	29.0	14.0		8R
	9400	HUAN	2	S/F	1517.5	1517.8	1.4	20.2	9.9		0
	8800	SGMR	8	S	1517.8	1518.1	.5	24.0			
	7000	SAOP	29	PBI	1518.8	1518.8	4.1	10.0	5.0		
	9400	HUAN	2	S/F	1553.3	1553.8	1.9	25.3	11.6		0
	7000	SAOP	3	S	1553.7	1554.1	1.2	13.0	6.0		0
	8800	SGMR	8	S	1553.8	1554.1	.8	22.0			
	7000	SAOP	3	S	1625.8	1626.4	1.1	13.0	6.0		0
	7000	SAOP	29	PBI	1626.9		2.1	6.0	3.0		
	2800	OTTA	1	S	1825.0	1825.4	1.0	2.8			
	245	PALE	47	GB	1825.0	1825.3	.6	840.0			
	410	SGMR	8	S	1825.0	1825.3	.5	470.0			
	410	PALE	47	GB	1825.0	1825.3	.6	680.0			
	606	SGMR	8	S	1825.1	1825.3	.4	76.0			
	606	PALE	8	S	1825.1	1825.3	.4	110.0			
	245	SGMR	47	GB	1825.3	1825.3	.3	890.0			
	410	LEAR	8	S	2244.6	2245.1	.9	13.0			
	1000	TYKW	5	S	2249.0	2249.2	1.5	5.0	1.5		
	410	LEAR	8	S	2250.0	2250.1	.6	42.0			
	9400	TYKW	5	S	2318.3	2318.5	.5	6.0	2.0		
	1415	MANI	4	S/F	2323.0	2334.5	28.0	44.6	14.9		
	2695	MANI	4	S/F	2323.0	2338.2	29.5	65.2	21.7		
	606	MANI	4	S/F	2324.5	2347.0	26.5	25.7	8.6		
	3750	TYKW	45	C	2325.0	2348.0	40.0	55.0	24.0		
	4995	PALE	8	S	2325.6	2325.8	.2	19.0			
	8800	PALE	8	S	2325.6	2325.8	.2	38.0			
	1000	TYKW	5	S	2327.0	2327.3	1.0	9.0	1.5		
	2000	TYKW	45	C	2327.0	2347.8	43.0	73.0	27.0		
	1000	TYKW	45	C	2330.0	2356.4	30.0D	79.0	17.0D		
	4995	LEAR	47	GB	2330.3	2338.8	24.0	11.0			
	410	LEAR	47	GB	2330.8	2345.6	23.5	23.0			
	2695	LEAR	47	GB	2331.0	2338.8	23.3	24.0			
	245	LEAR	47	GB	2332.1	2345.5	22.2	20.0			
	2695	PENT			2333.0	2347.0	24.0D	73.0			
	9400	TYKW	21	GRF	2333.0	2353.0	120.0	32.0	10.0		
	1415	LEAR	47	GB	2333.3	2336.8	21.0	27.0			
	606	LEAR	47	GB	2334.3	2345.6	20.0	27.0			
	8800	LEAR	4	S/F	2336.0	2345.3	18.3	23.0			
	2695	PALE	47	GB	2338.5	2344.3	19.3	58.0			
	1415	PALE	47	GB	2338.8	2344.3	19.0	52.0			
	15400	PALE	47	GB	2339.6	2343.3	18.2	50.0			
	8800	PALE	47	GB	2339.6	2344.8	18.2	40.0			
	4995	PALE	47	GB	2340.6	2344.8	17.2	40.0			
	410	PALE	47	GB	2344.3	2344.6	13.5	17.0			
	606	PALE	47	GB	2344.6	2345.3	13.2	18.0			
	245	PALE	4	S/F	2345.3	2347.1	12.5	28.0			
	1415	LEAR	4	S/F	2353.0	2354.3	11.0	84.0			
	15400	LEAR	4	S/F	2354.3	2355.3	9.8	36.0			
	8800	LEAR	4	S/F	2354.3	2355.3	16.7	40.0			
	410	LEAR	8	S	2354.3	2355.6	1.3	23.0			
	606	LEAR	47	GB	2354.3	2356.3	9.8	33.0			
	245	LEAR	4	S/F	2354.3	2357.6	5.5	31.0			
	2695	LEAR	4	S/F	2354.3	2357.6	15.2	77.0			
	4995	LEAR	4	S/F	2354.3	2358.3	8.7	44.0			
	15400	PALE	47	GB	2357.8	2358.0	12.8	40.0			
	1415	PALE	4	S/F	2357.8	2358.1	12.8	20.0			
	606	PALE	4	S/F	2357.8	2358.1	12.8	16.0			
	4995	PALE	47	GB	2357.8	2358.1	12.8	34.0			
	8800	PALE	47	GB	2357.8	2358.1	12.8	51.0			
	2695	PALE	4	S/F	2357.8	2358.1	12.8	20.0			
25	200	HIRA	43	NS	0200.0	0316.0	408.0D	15.0	5.0		0
	200	GORK	44	NS	0500.0E		360.0D		5.0		
	260	ONDR	44	NS	0740.0E	1024.0	424.0D	44.0			
	245	SGMR	43	NS	1442.3	1513.1	257.7D	270.0			
	208	YORO	44	NS	2300.0E		240.0D		8.0		
	1000	TYKW	30	PBI	0003.0E		230.0D	4.0	2.0D		
	3750	TYKW	30	PBI	0005.0		260.0	17.0	5.0		
	2000	TYKW	29	PBI	0010.0		260.0	9.0	4.0		
	4995	PALE	47	GB	0010.6	0010.8	6.9	18.0			
	8800	PALE	47	GB	0010.6	0011.5	6.4	30.0			
	15400	PALE	4	S/F	0010.6	0011.6	5.4	37.0			
	9400	TYKW	5	S	0048.0	0049.2	3.0	5.0	1.5		
	15400	PALE	8	S	0105.8	0107.3	1.8	33.0			
	15400	PALE	8	S	0112.8	0113.0	.3	44.0			
	1000	TYKW	8	S	0125.3	0125.4	.3	2.0	0.5		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
25	3750	TYKW	5	S	0126.0	0127.0	4.0	2.0	0.7		
	245	LEAR	8	S	0130.3	0130.3	.3	15.0			
	410	LEAR	8	S	0130.3	0130.5	.5	36.0			
	9400	TYKW	5	S	0135.0	0135.4	1.5	8.0	2.0		
	3750	TYKW	5	S	0138.0	0141.0	25.0	2.0	1.0		
	15400	PALE	4	S/F	0142.5	0145.1	4.0	43.0			
	8800	PALE	4	S/F	0143.5	0145.1	3.0	27.0			
	15400	PALE	47	GB	0211.5	0211.8	3.5	39.0			
	8800	PALE	8	S	0211.6	0211.8	.2	21.0			
	1000	TYKW	8	S	0215.4	0215.5	.2	10.0	3.0		
	8800	PALE	8	S	0223.6	0223.8	.5	21.0			
	9400	TYKW	45	C	0239.0	0316.0	40.0	16.0	5.0		
	15400	LEAR	8	S	0242.5	0242.6	.1	13.0			
	15400	LEAR	4	S/F	0313.3	0315.8	4.8	30.0			
	8800	LEAR	4	S/F	0314.0	0315.8	4.6	11.0			
	17000	NOBE	1	S	0314.0	0315.9	3.0	34.0			0
	9400	TYKW	29	PBI	0319.0		15.0	4.0	2.0		
	9400	TYKW	5	S	0356.0	0400.0	15.0	4.0	1.5		
	3750	TYKW	5	S	0357.0	0359.5	7.0	2.0	1.0		
	3750	TYKW	20	GRF	0433.0	0450.0	70.0	5.0	2.0		
	2000	TYKW	20	GRF	0438.0	0500.0	60.0	1.5	0.7		
	9400	TYKW	20	GRF	0442.0	0444.0	40.0	4.0	2.0		
	3750	TYKW	21	GRF	0555.0	0617.5	45.0	5.0	1.5		
	9400	TYKW	5	S	0602.0	0602.3	1.0	9.0	2.0		
	2000	TYKW	21	GRF	0610.0	0617.0	50.0	2.0	1.0		
	500	HIRA	46	C	0621.0	0621.3	4.0	340.0	40.0		
	2000	TYKW	45	C	0621.0	0621.6	3.0	9.0	2.5		
	3750	TYKW	5	S	0621.0	0621.6	3.0	11.0	2.0		
	1000	TYKW	45	C	0621.0	0621.7	3.0	2.5	1.0		
	2950	GORK	1	S	0621.0	0621.6	2.5	6.9	3.4		
	410	LEAR	8	S	0621.1	0621.6	1.7	460.0			
	650	GORK	4	S/F	0621.1	0621.6	1.0	17.0	5.6		
	2695	LEAR	8	S	0621.1	0621.6	1.7	13.0			
	606	LEAR	8	S	0621.1	0621.6	1.5	60.0			
	1415	LEAR	8	S	0621.1	0621.8	1.0	07.0			
	950	GORK	1	S	0621.4	0621.7	3.6	2.0	1.0		
	9400	TYKW	5	S	0633.7	0634.0	.5	9.0	2.0		
	9400	TYKW	5	S	0644.2	0644.5	.8	14.0	4.0		
	113	POTS	8	S	0659.5	0659.6	.3	180.0	60.0		III
	9100	GORK	20	GRF	0716.6	0717.5	9.3	7.0			
	6100	KISV	4	S/F	0716.8	0717.5	1.5	7.0			
	430	KRAK	8	S	0839.8	0839.9	.3	28.0			
	9100	GORK	20	GRF	0849.1	0850.1	9.9	4.0			
	3200	BERN	1	S	0849.2	0850.1	4.0	8.0			ONLY PAPER REC
	5200	BERN	1	S	0849.2	0850.1	4.0	12.0			ONLY PAPER REC
	430	KRAK	8	S	0856.5	0856.5	.4	45.0			
	430	KRAK	8	S	0939.5	0939.6	.3	84.0			
	204	IZMI	41	F	1023.5	1024.2	3.0	140.0			
	430	KRAK	8	S	1118.2	1118.4	.5	60.0			
	9500	POTS	20	GRF	1125.0	1129.0	30.0	10.0			
	3000	POTS	20	GRF	1128.0	1129.8	12.0	5.0			
	3200	BERN	20	GRF	1128.0	1129.3	19.0U	8.0			ONLY PAPER REC
	5200	BERN	22	GRF	1128.0	1129.3	28.0	16.0			ONLY PAPER REC
	2800	OTTA	21	GRF	1305.0	1340.0	155.0	6.6	3.3		
	7000	SAOP	40	F	1426.0						
	9400	HUAN	3	S	1448.4	1449.1	2.6	34.3	13.4		0
	8800	SGMR	8	S	1448.6	1449.1	.7	19.0			
	15400	SGMR	8	S	1448.8	1449.0	.7	57.0			
	2800	OTTA	1	S	1519.5	1520.0	1.0	2.8	1.4		
	2800	OTTA	8	S	1738.3	1738.5	.5	2.4	1.2		
	9400	HUAN	21	GRF	2146.4	2153.8	10.3	10.3	4.4		0
	9400	HUAN	1	S	2150.4	2151.0	1.7	25.7	7.5		0
	9400	TYKW	5	S	2150.5	2151.0	1.5	29.0	10.0		
	17000	NOBE	1	S	2150.7	2151.0	.8	20.0			0
	410	LEAR	8	S	2316.0	2316.1	.6	13.0			
26	245	LEAR	43	NS	0137.3	0451.8	517.7D	50.0			
	260	ONDR	44	NS	0757.0E	1217.0	396.0D	17.0			
	245	LEAR	43	NS	2200.0	0719.3	735.0	43.0			
	9400	TYKW	5	S	0518.7	0518.8	.5	10.0	2.0		
	9400	TYKW	5	S	0627.0	0627.6	1.5	6.0	2.0		
	930	BORD	41	F	1310.6	1310.7	.3	36.0	2.0		
	930	BORD	41	F	1431.4	1431.4	.3	41.0	2.0		
	606	LEAR	8	S	2309.8	2310.3	1.0	18.0			
	245	LEAR	8	S	2310.0	2310.6	.8	19.0			
	410	LEAR	8	S	2310.1	2310.5	.7	23.0			
	410	LEAR	8	S	2313.3	2313.5	.7	21.0			
	245	LEAR	8	S	2313.3	2313.5	.7	19.0			
	606	LEAR	8	S	2313.3	2313.5	.5	16.0			
27	260	ONDR	44	NS	0751.0E		402.0D	11.0			
	3750	TYKW	5	S	0040.0	0042.5	13.0	4.0	2.0		
	3750	TYKW	5	S	0349.0	0351.8	15.0	5.0	2.0		
	245	LEAR	8	S	0354.6	0354.8	.4	17.0			
	410	LEAR	8	S	0354.6	0354.8	.4	06.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
27	9400	TYKW	5	S	0421.8	0422.2	1.0	9.0	2.0		
	1000	TYKW	42	SER	0431.0	0500.0	35.0	9.0	1.0		
	245	LEAR	8	S	0436.1	0436.1	.4	17.0			
	410	LEAR	8	S	0436.1	0436.1	.4	09.0			
	2000	TYKW	20	GRF	0440.0	0510.0	120.0	1.5	0.7		
	3750	TYKW	20	GRF	0440.0	0510.0	120.0	2.0	1.0		
	204	IZMI	41	F	0717.0	0717.2	2.5	55.0			
	113	POTS	41	F	0757.3	0757.8	2.3	110.0	7.0		III
	430	KRAK	8	S	0817.2	0817.2	.2	45.0			
	430	KRAK	1	S	0837.3	0837.4	.7	10.0			
	1470	POTS	22	GRF	0946.5	0947.7	6.5	4.0			
	3000	POTS	22	GRF	0946.5	0948.0	6.5	7.0			
	2950	GORK	20	GRF	0946.5	0951.0	5.5	7.1	3.5		
	2650	DWIN	2	S/F	0947.0	0948.0	3.0	10.0	4.0		
	260	ONDR	45	C	1020.5	1022.0	2.5	81.0	20.0		
	3000	POTS	20	GRF	1020.5	1022.0	4.5	9.7			
	204	IZMI	41	F	1020.5	1022.0	4.5	375.0			
	127	TORN	47	GB	1020.5	1022.0	4.5	390.0	190.0		
	29	UPIC	46	C	1020.5U	1022.2	3.3D				
	1470	POTS	20	GRF	1020.5	1022.5	4.5	2.5			
	234	POTS	4	S/F	1020.7	1022.0	1.9	250.0	1.0		III
	113	POTS	4	S/F	1020.8	1022.0	2.8	1200.0	150.0		III
	2650	DWIN	2	S/F	1021.0	1022.0	3.0	10.0	4.0		
	33	UPIC	46	C	1021.1	1021.9	3.9				
	430	KRAK	40	F	1021.5	1021.8	3.5	35.0	7.0		
	3200	BERN	1	S	1021.6	1022.0	4.0	13.0			ONLY PAPER REC
	5200	BERN	46	C	1021.6	1022.0	4.0	73.0			ONLY PAPER REC
	536	ONDR	45	C	1022.2	1022.7	3.5	38.0	4.0		
	29	UPIC	45	C	1219.3	1219.5	1.1				
	33	UPIC	45	C	1219.3	1219.5	1.2				
	430	KRAK	8	S	1247.4	1247.6	.4	34.0			
	113	POTS	4	S/F	1305.2	1305.2	.2	280.0	70.0		III
	430	KRAK	7	C	1340.7	1343.1	5.1	94.0	10.0		
	536	ONDR	2	S/F	1341.2	1342.7	2.0	15.0	5.0		
	2650	DWIN	1	S	1358.0	1358.0	1.0	25.0	5.0		
	2650	DWIN	2	S/F	1445.0	1446.0	1.0	40.0	20.0		
	2650	DWIN	2	S/F	1507.0	1507.0	1.0	320.0	200.0		
	2800	OTTA	22	GRF	1620.0	1632.0	15.0	3.4	1.7		
	7000	SAOP	28	PRE	1820.4		10.2	6.0	3.0		
	9400	HUAN	21	GRF	1830.0	1836.5	31.6	17.8	7.9		0
	7000	SAOP	4	S/F	1830.7	1834.2	6.9	60.0	30.0		11L
	4995	SGMR	4	S/F	1830.8	1834.1	6.8D	59.0			
	2800	OTTA	4	S/F	1831.0	1834.3	10.0	51.0	20.0		
	2695	SGMR	4	S/F	1831.0	1834.3	7.1D	52.0			
	1415	SGMR	4	S/F	1831.3	1834.3	7.0	41.0			
	2695	PALE	4	S/F	1831.6	1834.3	5.4	57.0			
	4995	PALE	4	S/F	1832.6	1834.1	3.7	47.0			
	8800	SGMR	4	S/F	1832.6	1834.1	5.4D	40.0			
	1415	PALE	4	S/F	1832.8	1834.3	3.5	34.0			
	606	PALE	4	S/F	1832.8	1834.5	4.2	100.0			
	9400	HUAN	2	S/F	1832.9	1834.0	3.1	27.5	15.9		R
	410	PALE	4	S/F	1833.0	1835.3	6.5	43.0			
	245	PALE	47	GB	1833.1	1833.5	6.5	33.0			
	8800	PALE	4	S/F	1833.1	1834.3	2.9	41.0			
	15400	PALE	8	S	1834.1	1834.3	.2	22.0			
	7000	SAOP	29	PBI	1837.6	1837.6	17.6	16.0	8.0		
	245	PALE	4	S/F	1845.0	1847.6	3.6	80.0			
	245	PALE	8	S	1857.0	1858.3	1.6	40.0			
	245	PALE	4	S/F	1904.6	1905.8	2.4	38.0			
	245	LEAR	8	S	2229.0	2229.8	1.3	23.0			
28	260	ONDR	44	NS	0757.0E		388.0D	16.0			
	3750	TYKW	5	S	0018.0	0020.0	5.0	1.5	0.7		
	3750	TYKW	5	S	0027.0	0028.2	10.0	4.0	1.5		
	208	VORO	2	S/F	0108.0	0109.5	2.0	29.0			
	2000	TYKW	20	GRF	0150.0	0230.0	110.0	2.0	1.0		
	3750	TYKW	20	GRF	0150.0	0250.0	110.0	3.0	1.5		
	1000	TYKW	45	C	0350.0	0407.2	20.0	17.0	3.0		
	3750	TYKW	28	PRE	0352.0	0357.5	11.0	6.0	2.0		
	2000	TYKW	28	PRE	0353.0	0356.7	10.0	3.5	2.0		
	9400	TYKW	28	PRE	0400.0	0407.0	7.0	3.0	1.5		
	2000	TYKW	45	C	0403.0	0408.6	10.0	22.0	7.0		
	3750	TYKW	45	C	0403.0	0408.6	10.0	23.0	8.0		
	9400	TYKW	5	S	0407.0	0409.2	5.0	14.0	7.0		
	9400	TYKW	29	PBI	0412.0		35.0	7.0	3.5		
	3750	TYKW	29	PBI	0413.0		30.0	4.0	1.5		
	2000	TYKW	29	PBI	0413.0		10.0	2.5	1.0		
	2950	GORK	20	GRF	0639.0	0651.0	25.7	8.2	4.0		
	204	IZMI	8	S	0644.5	0644.5	.5	102.0	80.0		
	113	POTS	4	S/F	0644.6	0644.7	1.3	320.0	16.0		III
	100	GORK	46	C	0644.6	0644.7	1.4	900.0D			
	100	GORK		C	0644.6	0645.1		90.0D			
	650	GORK	21	GRF	0645.0	0649.6	21.0	9.0	2.0		
	950	GORK	20	GRF	0646.0	0649.1	13.3	7.0	3.5		
	2000	TYKW	5	S	0648.0	0650.5	15.0	6.0	3.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
28	3750	TYKW	5	S	0648.0	0650.5	15.0	6.0	2.5		
	650	GORK	4	S/F	0650.8	0651.0	.3	28.0			
	810	KRAK	8	S	1141.8	1141.8	.1	13.0			
	113	POTS	4	S/F	1211.4	1211.5	.5	190.0	35.0		
	930	BORD	8	S	1252.1	1252.2	.2	24.0	2.0		
	930	BORD	41	F	1310.3	1310.4	.2	59.0	2.0		
	2800	OTTA	1	S	1623.8	1625.0	3.5	2.0			
	410	LEAR	8	S	2305.3	2305.5	1.2	11.0			
	1000	TYKW	5	S	2359.5	2359.8	.5D	9.0	2.0D		
29	208	VORO	44	NS	0000.0E		180.0D		8.0		
	245	LEAR	43	NS	0109.0	0355.3	547.0D	32.0			
	200	HIRA	43	NS	0218.0	0424.0	325.0D	18.0	10.0		WR
	260	ONDR	44	NS	0750.0E	1158.0	412.0D	46.0			
	245	LEAR	43	NS	2158.0	2213.3	739.0	30.0			
	208	VORO	44	NS	2300.0E		240.0D		8.0		
	2000	TYKW	5	S	0130.0	0135.3	20.0	8.0	3.0		
	1000	TYKW	45	C	0132.0	0141.8	18.0	5.0	2.5		
	3750	TYKW	20	GRF	0133.0	0150.0	80.0	3.0	1.5		
	9400	TYKW	20	GRF	0135.0U	0150.0	80.0U	4.0U	2.0U		RAIN
	2000	TYKW	29	PBI	0150.0		150.0	3.0	1.5		
	1000	TYKW	29	PBI	0150.0		60.0	1.0	0.5		
	410	PALE	8	S	0229.1	0229.3	.4	119.0			
	1415	PALE	8	S	0334.8	0335.6	1.3	20.0			
	245	LEAR	8	S	0429.8	0430.1	.5	10.0			
	410	LEAR	8	S	0429.8	0430.1	.5	09.0			
	606	LEAR	8	S	0430.0	0430.1	.3	06.0			
	245	LEAR	8	S	0432.8	0432.8	.3	13.0			
	410	LEAR	8	S	0433.0	0433.1	.1	07.0			
	606	LEAR	8	S	0433.0	0433.1	.1	05.0			
	100	GORK	2	S/F	0718.0	0720.4	3.7	50.0			
	200	GORK	4	S/F	0719.0	0720.4	2.3	60.0D			
	204	IZMI	41	F	1153.5	1158.5	5.5	230.0			
	113	POTS	42	SER	1153.7	1154.4	5.0	530.0	20.0		III
	2800	OTTA	240	R	1800.0	1850.0	50.0	5.0			
	2800	OTTA	20	GRF	1945.0	2020.0	80.0	3.2	2.2		
30	260	ONDR	44	NS	0752.0E	1101.5	410.0D	20.0			
	245	LEAR	43	NS	2157.0	0446.6	740.0	43.0			
	208	VORO	44	NS	2300.0E		240.0D		9.0		
	245	LEAR	8	S	0225.0	0225.5	.6	44.0			
	4995	SGMR	47	GB	0426.1	1227.8	482.2D	00.0			
	1000	TYKW	45	C	0518.0	0519.9	4.0	63.0	12.0		
	1000	TYKW	45	C	0551.0	0552.0	1.0	5.0	1.0		
	950	GORK	2	S/F	0551.2	0551.9	1.3	5.0			
	1415	LEAR	8	S	0551.8	0552.1	1.0	62.0			
	2950	GORK	1	S	0551.8	0552.1	.7	6.0	3.0		
	2695	LEAR	8	S	0551.8	0552.1	1.0	07.0			
	2000	TYKW	5	S	0552.0	0552.3	1.0	10.0	2.0		
	3750	TYKW	45	C	0552.0	0552.1	.7	5.0	1.5		
	245	LEAR	8	S	0552.1	0552.6	.7	45.0			
	410	LEAR	8	S	0552.3	0552.5	.5	18.0			
	9100	GORK	20	GRF	0604.6	0854.1	360.0D	13.0			
	1470	POTS	22	GRF	0702.0	0732.5	58.0	15.0			
	1470	POTS			0702.0	0734.5					
	9500	POTS	3	S	1009.0	1009.9	2.0	16.0			
	1470	POTS	4	S/F	1155.0	1156.5	4.0	11.0			
	2650	DWIN	2	S/F	1201.0	1202.0	1.0	20.0	5.0		
	2800	OTTA	4	S/F	1226.0	1228.5	12.0	106.0	24.0		
	3000	POTS	4	S/F	1226.5	1228.3	8.5	80.0			
	1470	POTS	4	S/F	1226.5	1228.4	5.0	35.0			
	3100	CRIM	3	S	1226.5	1228.8	10.0	95.0	31.0		
	5200	BERN	4	S/F	1227.0	1228.2	12.0	140.0			
	9500	POTS	4	S/F	1227.0	1228.2	8.0	51.0			
	3200	BERN	4	S/F	1227.0	1229.0	12.0	110.0			
	7000	SAOP	4	S/F	1227.1	1228.3	2.6	104.0	52.0		11L
	2695	ATHN	4	S/F	1227.5	1228.3	8.8	89.0			
	4995	ATHN	4	S/F	1227.5	1228.3	9.0	119.0			
	1415	SGMR	4	S/F	1227.6	1228.3	2.2	33.0			
	9400	HUAN	4	S/F	1227.6	1228.5	6.6	53.6	17.5		L
	4995	SGMR	4	S/F	1227.8	1228.3	7.0	119.0			
	2695	SGMR	4	S/F	1227.8	1228.3	6.5	86.0			
	8800	SGMR	4	S/F	1227.8	1228.3	6.2	40.0			
	8400	BERN	4	S/F	1228.0	1228.2	9.0	80.0			
	7000	SAOP	29	PBI	1229.7	1229.7	34.7	30.0	15.0		
	2650	DWIN	4	S/F	1238.0	1239.0	10.0	12.0	50.0		
	260	ONDR	4	S/F	1304.6	1305.7	2.0	209.0D	10.0		
	113	POTS	4	S/F	1305.0	1305.0	.9	2100.0	115.0		III
	234	POTS	4	S/F	1305.1	1305.7	.7	1050.0	30.0		III
	430	KRAK	5	S	1310.6	1311.6	1.3	700.0D	250.0		
	430	KRAK	5	S	1318.2	1318.6	1.3	700.0D	250.0		
	1470	POTS	40	F	1401.0	1402.5	6.0	5.4			
	3000	POTS	3	S	1401.0	1402.5	3.0	6.6			
	9500	POTS	40	F	1401.0	1402.5	6.0	15.0			
	2800	OTTA	240	R	1435.0	1515.0	40.0	5.4	3.0		

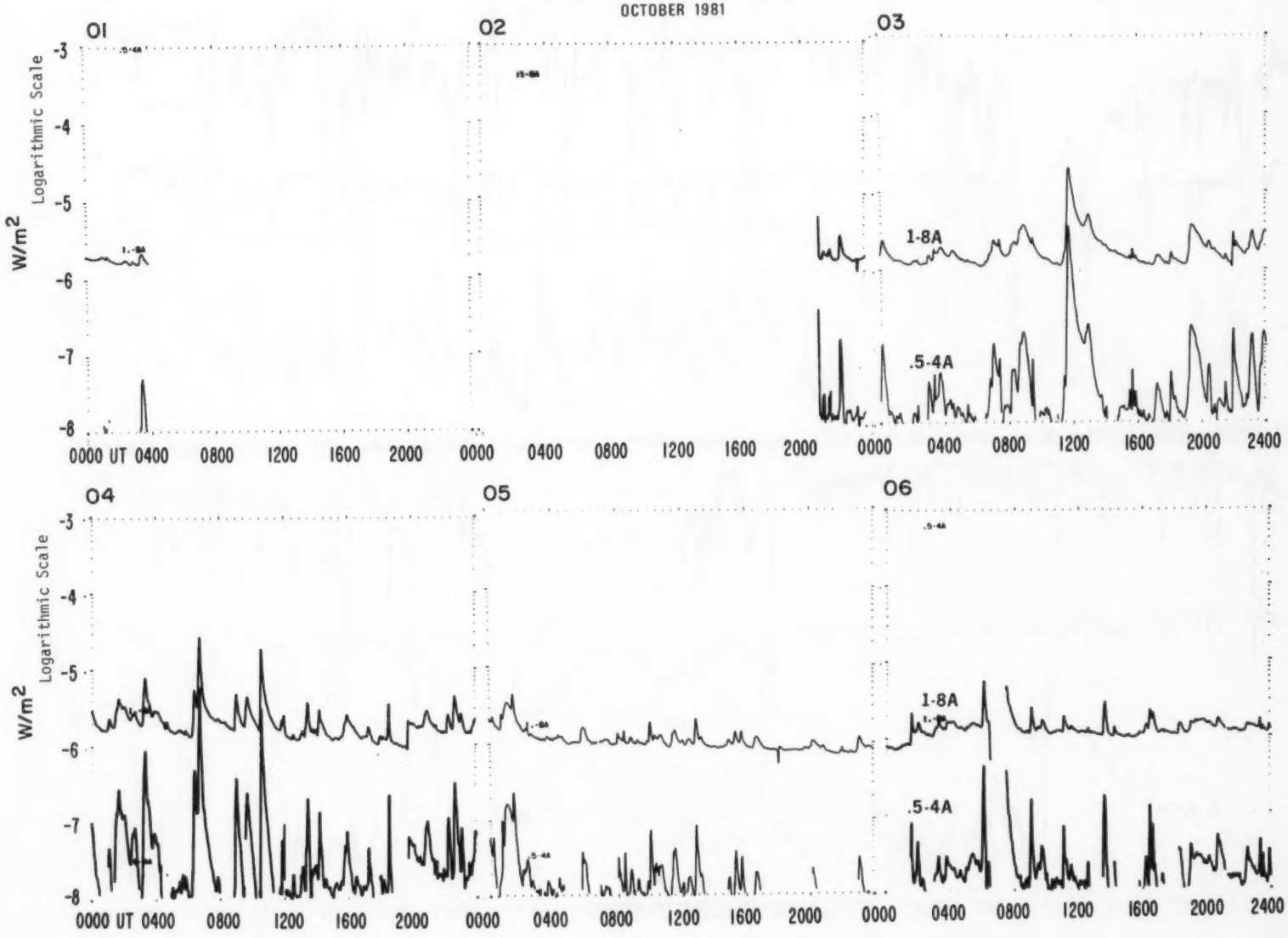
SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1981

Day of Month	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 -22 W/m 2 Hz) Peak	Mean	Int	Remarks
30	2695	PENT	20	GRF	2045.0	2150.0	130.0D	4.8			
31	200	HIRA	43	NS	0334.0	0450.0	245.0D	8.0	5.0		0
	200	GORK	44	NS	0503.0E		366.0D		5.0		
	127	TORN	43	NS	0646.0		104.0D				V1
	100	GORK	43	NS	0722.0		71.0		5.0		
	260	ONDR	44	NS	0800.0E		391.0D	10.0			
	200	HIRA	44	NS	2059.0E	0443.0	630.0D	10.0	5.0		0
	245	LEAR	43	NS	2157.0	2251.1	741.0	42.0			
	208	VORO	2	S/F	0025.0	0026.0	1.5	24.0			
	3750	TYKW	20	GRF	0133.0	0200.0	135.0	4.0	2.0		
	9400	TYKW	20	GRF	0133.0	0200.0	110.0	4.0	2.0		
	2000	TYKW	20	GRF	0137.0	0210.0	105.0	2.0	1.0		
	15400	PALE	47	GB	0143.0	0143.8	14.0	31.0			
	8800	PALE	47	GB	0145.3	0145.6	11.7	13.0			
	2695	PALE	4	S/F	0146.1	0147.8	10.9	19.0			
	9400	TYKW	20	GRF	0440.0	0503.0	50.0	4.0	2.0		
	3750	TYKW	45	C	0447.0	0452.6	38.0	10.0	6.0		
	2000	TYKW	5	S	0450.0	0454.5	8.0	9.0	3.0		
	2695	LEAR	4	S/F	0450.8	0454.3	11.5	11.0			
	4995	LEAR	4	S/F	0451.8	0452.6	5.8	05.0			
	1415	LEAR	8	S	0454.0	0454.6	1.1	03.0			
	2000	TYKW	30	PBI	0458.0		36.0	3.0	2.5		
	3750	TYKW	30	PBI	0525.0		10.0	3.0	3.0		
	9100	GORK	20	GRF	0533.8	0610.7	273.0	20.0			
	2000	TYKW	45	C	0534.0	0542.4	10.0	12.0	5.0		
	3750	TYKW	45	C	0535.0	0541.6	9.0	62.0	7.0		
	9400	TYKW	20	GRF	0535.0	0600.0	100.0	8.0	4.0		
	2950	GORK	20	GRF	0536.0	0718.0	327.0D	15.0			
	2695	LEAR	4	S/F	0539.1	0542.5	4.0	13.0			
	1415	LEAR	4	S/F	0539.3	0542.5	3.7	15.0			
	245	LEAR	4	S/F	0539.6	0542.5	3.4	85.0			
	410	LEAR	4	S/F	0540.1	0540.6	2.7	09.0			
	1000	TYKW	5	S	0542.0	0542.4	1.0	9.0	2.5		
	2000	TYKW	30	PBI	0544.0		80.0	6.0	3.0		
	3750	TYKW	30	PBI	0544.0		80.0	6.0	3.0		
	3750	TYKW	20	GRF	0554.0	0610.0	40.0	5.0	2.5		
	2000	TYKW	20	GRF	0555.0	0610.0	50.0	3.0	1.5		
	6100	KISV	27	RF	0631.0	0640.2	12.0	7.0			
	410	LEAR	8	S	0654.5	0654.5	.3	17.0			
	950	GORK	23	GRF	0712.2	0732.4	26.2	25.0			
	650	GORK	21	GRF	0712.4		27.0				
	606	MANI	4	S/F	0715.0	0717.9	24.0	37.7	12.6		
	950	GORK	45	C	0716.5	0717.0	2.0	16.0			
	950	GORK			0716.5	0718.0		11.0			
	1415	MANI	4	S/F	0716.5	0732.8	22.0	20.9	7.0		
	2695	LEAR	4	S/F	0716.6	0717.0	2.2	09.0			
	650	GORK	2	S/F	0716.7	0718.1	2.4	21.0			
	410	LEAR	8	S	0716.8	0717.0	2.0	22.0			
	606	LEAR	8	S	0716.8	0718.1	2.0	52.0			
	606	LEAR	4	S/F	0729.1	0729.6	7.4	40.0			
	650	GORK	1	S	0729.1	0729.9	1.7	19.0			
	410	LEAR	4	S/F	0729.5	0730.8	7.3	67.0			
	245	LEAR	4	S/F	0729.6	0730.8	8.2	100.0			
	1415	LEAR	4	S/F	0730.1	0734.5	6.4	17.0			
	6100	KISV	4	S/F	1009.2	1010.0	2.0	9.0			
	810	KRAK	8	S	1155.5	1155.5	.2	19.0			
	7000	SAOP	1	S	1440.8	1441.5	1.1	10.0	5.0		17L
	9400	HUAN	1	S	1441.0	1441.4	1.5	8.4	4.0		0
	7000	SAOP	29	PBI	1441.9	1441.9	2.8	7.0	3.0		
	245	SGMR	8	S	1713.1	1713.3	.4	38.0			
	410	SGMR	8	S	1713.1	1713.3	.2	47.0			
	2800	OTTA	24	R	1720.0	1810.0	50.0	3.6	1.8		
	1415	PALE	8	S	1734.1	1734.3	.5	34.0			
	2800	OTTA	3	S	1818.0	1818.5	1.5	14.0	3.6		
	1415	PALE	8	S	1818.0	1818.1	.6	48.0			
	2695	PALE	8	S	1818.3	1818.5	.3	18.0			
	8800	PALE	8	S	1818.3	1818.5	.3	21.0			
	2800	OTTA	23	GRF	1830.0	2000.0	220.0	5.4	2.7		
	2800	OTTA	1	S	1944.0	1945.0	6.0	3.0	1.5		
	3750	TYKW	21	GRF	2310.0	2330.0	80.0	2.0	1.0		
	9400	TYKW	20	GRF	2317.0	2350.0	45.0	4.0	1.5		
	3750	TYKW	5	S	2347.0	2347.4	12.0	3.0	1.5		

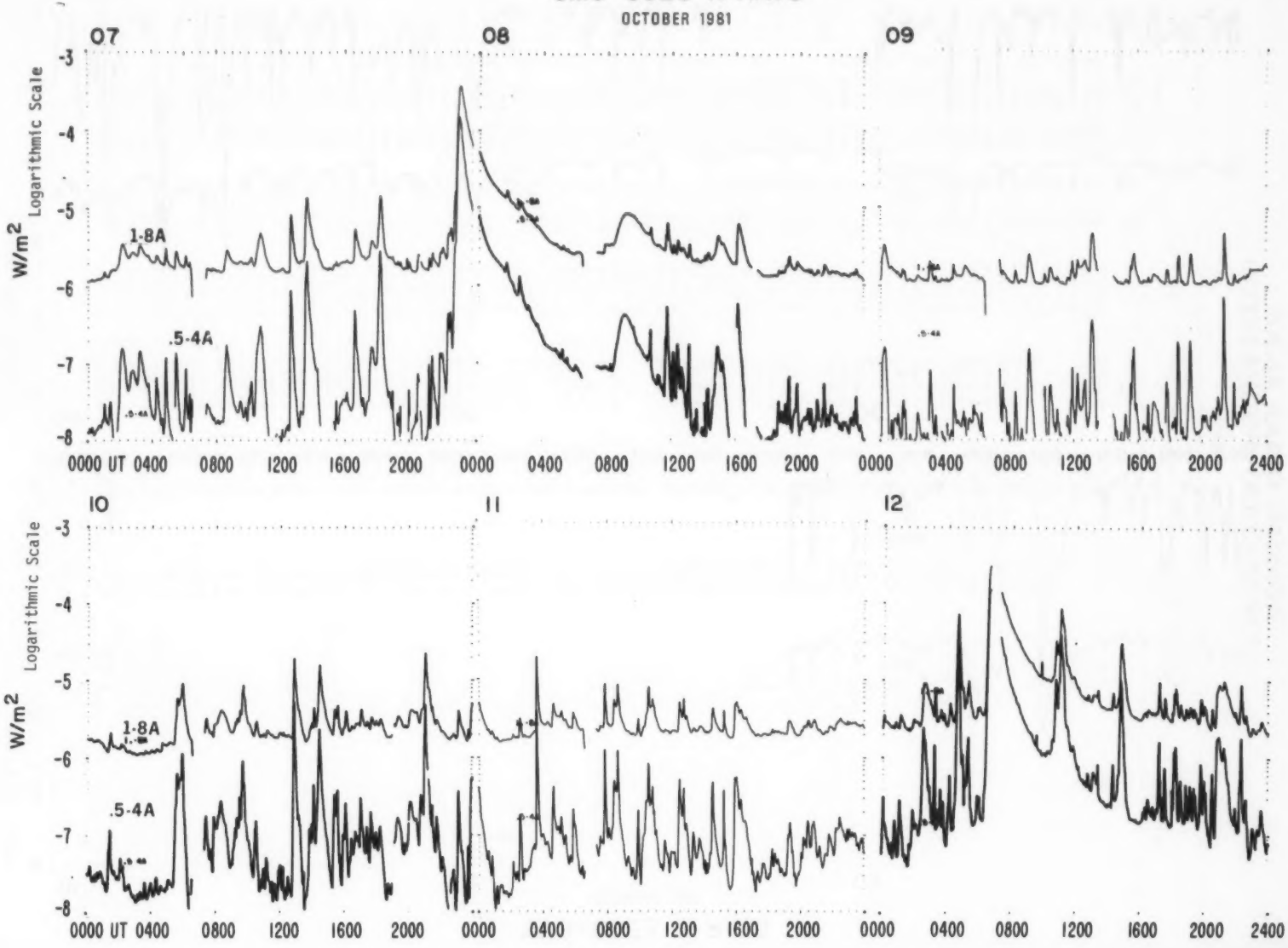
SMS-GOES X-RAYS

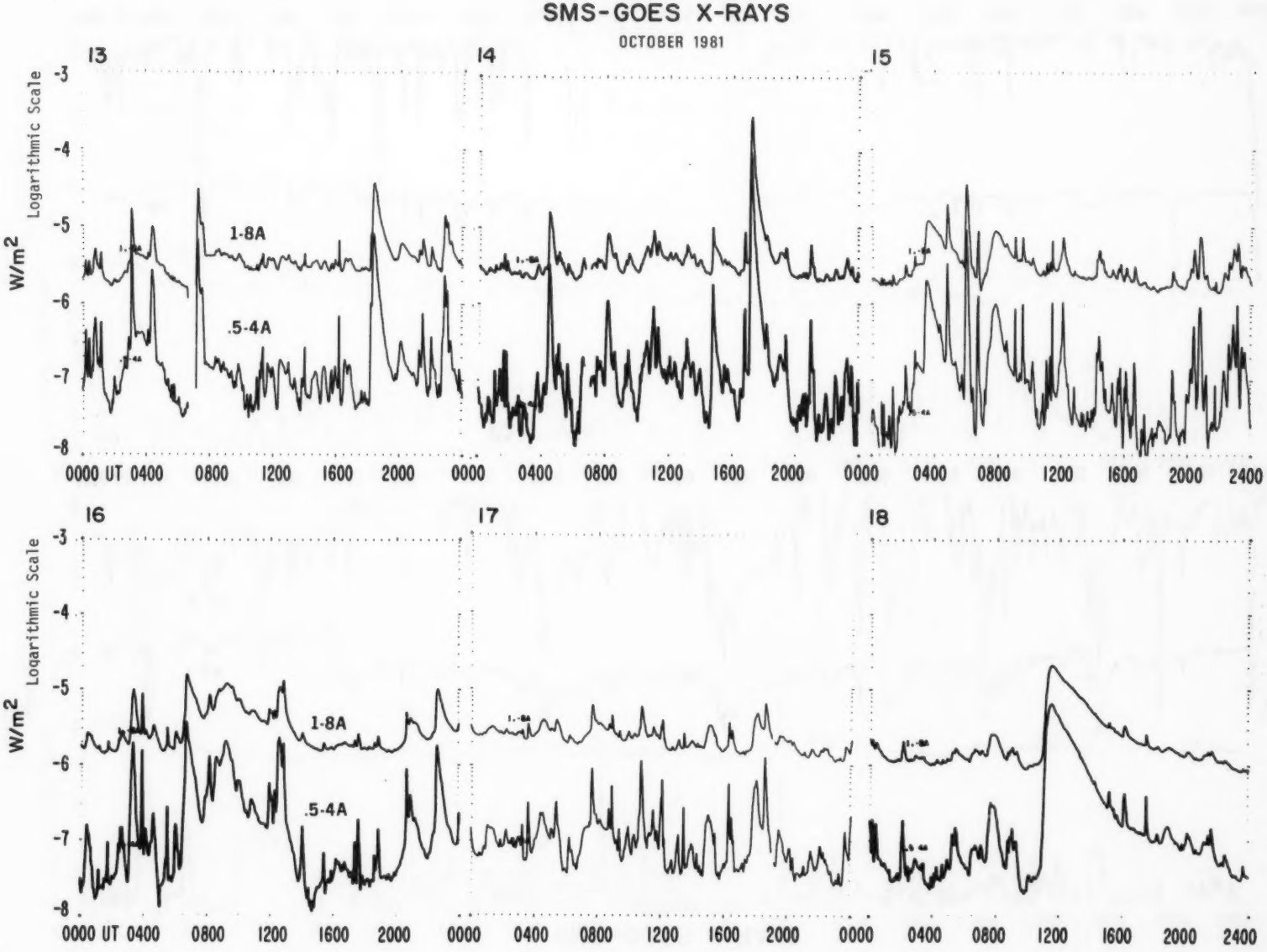
OCTOBER 1981



SMS-GOES X-RAYS

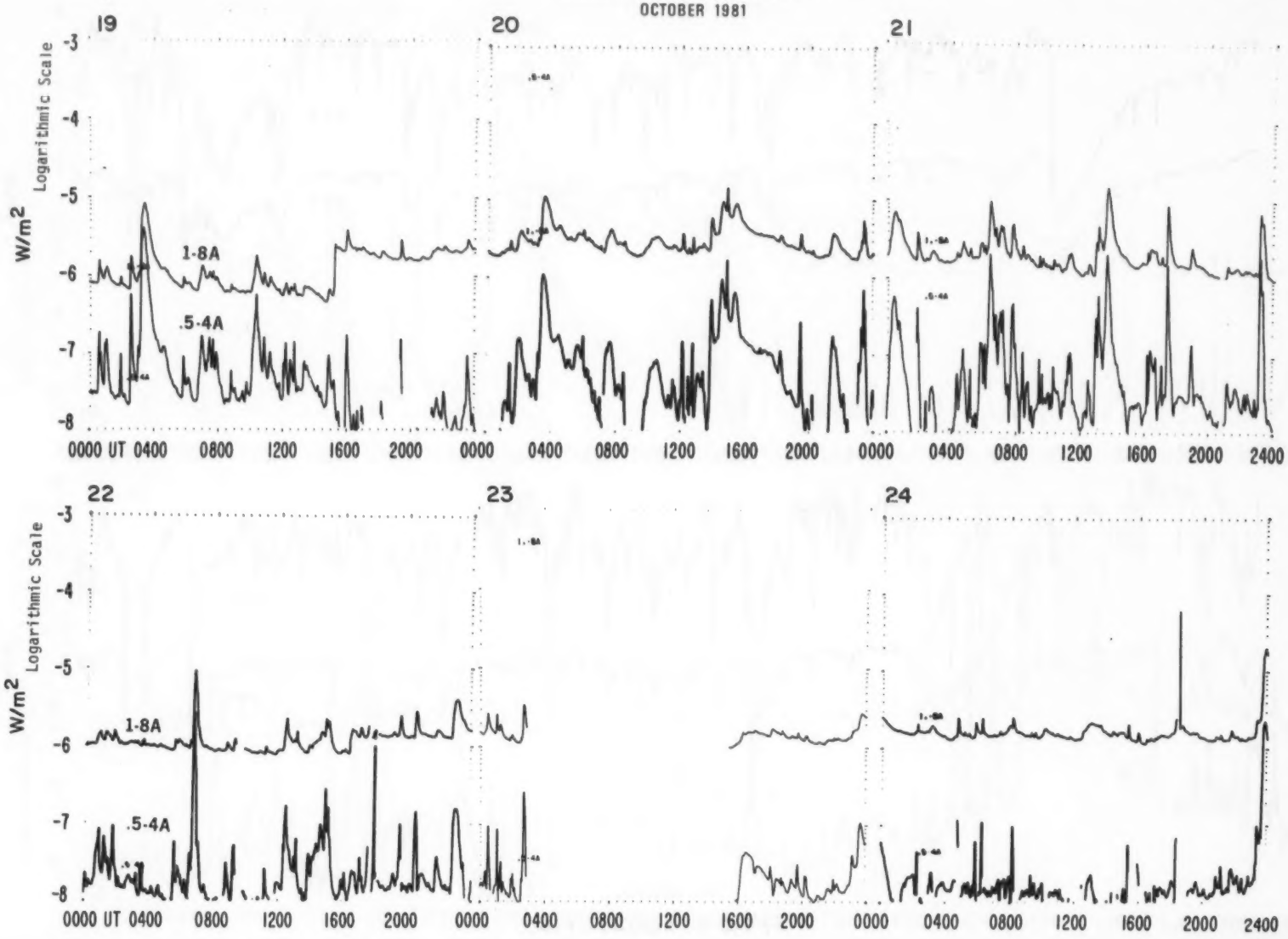
OCTOBER 1981

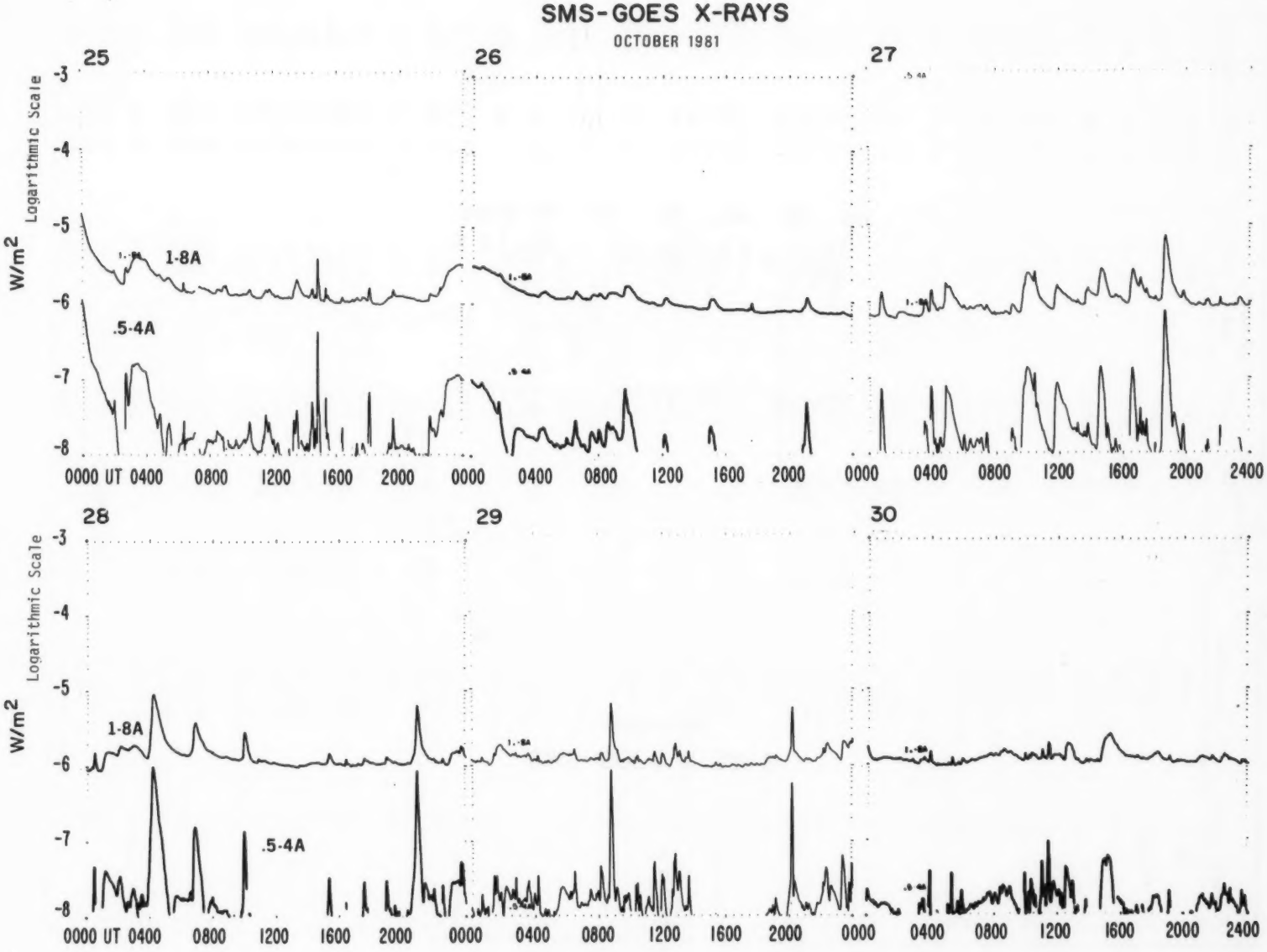


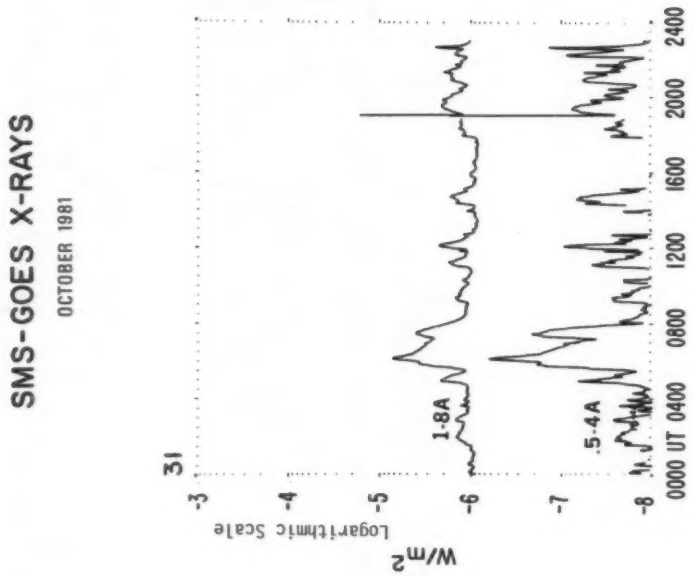

SMS-GOES X-RAYS
OCTOBER 1981
13
14
15
16
17
18
Logarithmic Scale
W/m2
1-8A
.5-4A
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400

SMS-GOES X-RAYS

OCTOBER 1981




SMS-GOES X-RAYS
OCTOBER 1981
25
26
27
28
29
30
Logarithmic Scale
W/m2
1-8A
.5-4A
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400


SMS-GOES X-RAYS
OCTOBER 1981
31
W/m²
Logarithmic Scale
-3
-4
-5
-6
-7
-8
1-8A
.5-4A
0000 UT 0400 0800 1200 1600 2000 2400

MASS EJECTIONS FROM THE SUN

October 1981

Station	Day	Observed UT Start	Max	End	Location RA°	R/R_0	Wavelength	Type of Event
CULG	Oct 01	0000		0722			Meter	II Weak
CULG	Oct 02	2021		2030			Meter	Possible II
HARV	Oct 03	1712		1720			Meter	II
WEND	Oct 04	1319		1436D	278	1.0	H-alpha	A
LEAR	Oct 07	2225.8		2349.8			Meter	IV
CULG	Oct 07	2253		2400			Decimeter	IV
CULG	Oct 07	2259		2330			Meter	IV
CULG	Oct 07	2259		2349			Meter; dekameter	II
PALE	Oct 07	2300.4		2341.5			Meter	II
CULG	Oct 07	2304		2331.5			Dekameter	II
CULG	Oct 08	0000		0150			Decimeter	IV
WEND	Oct 09	1301	1307	1317	095	1.0	H-alpha	S
WEND	Oct 09	1333	1344	1403	095	1.0	H-alpha	S
KHAR	Oct 11	0822		0829	253	0.74	H-alpha	S
KHAR	Oct 11	0933		0944	241	0.75	H-alpha	S
KHAR	Oct 11	0954		1029	253	0.74	H-alpha	S
KHAR	Oct 11	1104		1139	255	0.74	H-alpha	S
HARV	Oct 11	1916		1927			Meter	II
CULG	Oct 12	0436		0439			Meter	II
WEIS	Oct 12	0624.7		0805			160-1000	IV Fast Drift
WEIS	Oct 12	0625		1032			30-160	IV
CULG	Oct 12	0625.5		0718			Deci; meter; deka	IV
CULG	Oct 12	0627		0715			Meter	II Herringbone
HARV	Oct 13	1824		1840			Meter	II
VORO	Oct 13	2337	2348	2354	197	0.45	H-alpha	S
HARV	Oct 14	1706		1710			Decimeter	IV
HARV	Oct 14	1711		1719			Meter	II
VORO	Oct 15	0058	0105	0133	252	0.90	H-alpha	S
HARV	Oct 16	2036		2051			Decimeter	IV
WEIS	Oct 18	1116		1225			300-1000	IV Pulsations
WEIS	Oct 18	1118		1308			30-300	IV
HARV	Oct 18	1756		2140			Decimeter	IV
CULG	Oct 19	0326		0331			Meter	II
ABST	Oct 20	0709	0742	0806	256	100	H-alpha	SP
WEND	Oct 20	0754E		0959	280	1.0-1.1	H-alpha	SP
WEND	Oct 20	0944		1533D	254	1.0	H-alpha	A
KHAR	Oct 20	0945		0952	253	1.00	H-alpha	SP
KHAR	Oct 20	0949		0952	251	1.00	H-alpha	S
WEND	Oct 20	1353	1404	1408	249	0.98-1.06	H-alpha	S
WEND	Oct 20	1414	1441	1510	234	1.2	H-alpha	Q
HARV	Oct 20	1422		1438			Decimeter	IV
KHAR	Oct 24	1000		1016	278	1.00	H-alpha	S
KHAR	Oct 24	1042		1127	103	1.00-1.04	H-alpha	S
KHAR	Oct 24	1045		1120	278	1.00	H-alpha	S
CULG	Oct 25	0005		0018			Meter	II Weak
KHAR	Oct 27	0933	0933	1118	075-080	1.00-1.05	H-alpha	SP
WEIS	Oct 27	1036.2		1038.4			Meter	II
HARV	Oct 27	1831		1907			Decimeter, meter	IV

MASS EJECTIONS FROM THE SUN

October 1981

Station	Day	Observed UT Start	Max	End	Location RA°	R/R_0	Wavelength	Type of Event
WEND	Oct 29	0843	0849	0857	102	1.0	H-alpha	S
KHAR	Oct 30	0915		0942	268	1.00	H-alpha	S
KHAR	Oct 30	0915		0931	102	0.70	H-alpha	S
KHAR	Oct 30	0932		0952	056	0.80	H-alpha	S
KHAR	Oct 30	0938		0956	075	0.67	H-alpha	S

QUALIFIERS ON START, MAX AND END TIMES
D = event ended after tabulated time
E = event began before the tabulated time
U = uncertain time

TYPE OF EVENT
A = eruptive active region prominence
CB = coronal cloud bubble
D = coronal depletions
E = coronal enhancement
EL = coronal expanding loop
II = Type II radio burst
IVm = moving Type IV radio burst
Q = eruptive quiescent prominence
R = coronal ray or streamer
S = flare-surge if there is a known flare association
SP = flare-spray if there is a known flare association
* = movement may be caused by ionospheric refraction

REPORTING STATIONS
ABST = Abastumani
BIGB = Big Bear
BLEN = Bleien
CULG = Culgoora
DWIN = Dwingeloo
GEOR = Georgiana
HALE = Haleakala
HAOC = High Altitude Observatory's SMM Coronagraph/Polarimeter
HAOK = High Altitude Observatory's MARK-III Coronameter at Mauna Loa
HARV = Harvard (Fort Davis)
KHAR = Kharkov
LEAR = Learmonth
LVOV = Lvov
MANI = Manila
MITK = Mitaka
NRLC = Naval Research Laboratory's White-Light Coronagraph Experiment on P78-1
PALE = Palehua
SGMR = Sagamore Hill
TELV = Tel Aviv
VORO = Voroshilov
WEIS = Weissenau
WEND = Wendelstein
UDAI = Udaipur

NOTE: Because only a small fraction of the data taken by satellite-borne coronagraph had been analyzed at the time this table was assembled, many events are defined solely by ground-based observatory reports.

MISCELLANEOUS DATA

Contents

	Page
Active Regions 18 August - 12 October 1981	56-57
Synoptic Solar Maps 18 August - 12 October 1981	58-59
Energetic Solar Particles July - September 1980 IMP8 Electrons, Protons, Alpha Particles	60-74

56
Misc
Aug-Oct 81

ACTIVE REGIONS
CARRINGTON ROTATION 1712
(August 8 to September 9, 1981)

Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1711	Activity at West Limb
1	15°N	353	1	>6	x		dispersed
2	9°S	342	3	>6			decreasing
3	14°S	342	1	>6	x		dispersed
4	5°S	341	3	>6			decreasing
5	22°S	336	1	>6	x	4	decreasing
6	6°S	330	2	+3			dispersed
7	2°S	325	3	>6			decreasing
8	14°S	325	2	+3			disappeared
9	19°S	321	4	>6			decreasing
10	8°S	320	2	>6			decreasing
11	11°N	307	3	+2			stable
12	9°S	304	1	>6	x		dispersed
13	16°N	304	2	>6			dispersed
14	26°N	296	1	>6	x		dispersed
15	3°S	295	2	+1			decreasing
16	19°S	295	2	>6			decreasing
17	13°S	286	4	>6		17	decreasing
18	10°S	285	4	-2			decreasing
19	27°S	279	1	>6	x		dispersed
20	8°S	278	1	>6	x		disappeared
21	12°N	276	4	+4			decreasing
22	12°S	268	2	-4			decreasing
23	9°S	264	3	>6			decreasing
24	6°S	253	2	-4			increasing
25	6°S	246	2	-6			decreasing
26	16°N	244	1	>6	x		dispersed
27	20°N	242	3	>6			decreasing
28	24°S	239	1	+5	x		disappeared
29	28°N	232	1	>6	x		decreasing
30	2°N	225	1	+4	x		disappeared
31	17°N	224	4	>6			decreasing
32	12°N	218	2	>6		36	decreasing
33	12°S	217	2	-3			decreasing
34	21°N	213	1	>6	x	29	decreasing
35	26°N	213	1	>6	x		decreasing
36	13°S	212	1	+4	x		disappeared
37	15°N	202	4	>6			decreasing
38	8°S	196	1	-5	x		disappeared
39	9°S	191	2	+2			decreasing
40	25°S	190	1	>6	x		dispersed
41	10°S	180	3	>6			decreasing
42	14°S	171	4	>6			decreasing
43	15°N	161	3	>6			decreasing
44	8°S	152	2	>6			decreasing
45	19°N	151	1	>6	x		dispersed
46	27°S	143	3	>6		38	decreasing
47	10°N	137	1	>6	x		decreasing
48	17°N	136	1	>6	x		dispersed
49	1°S	135	1	>6	x		dispersed
50	7°N	132	3	+6			decreasing
51	10°S	131	4	>6		41	decreasing
52	5°S	126	2	>6			dispersed
53	11°N	123	3	>6		40	decreasing
54	18°S	117	4	>6		42	decreasing
55	10°S	115	1	>6	x	41	decreasing
56	12°S	108	1	>6	x		dispersed
57	17°S	104	2	-4			increasing
58	25°S	100	2	>6			dispersed
59	18°N	91	2	+2			decreasing
60	29°N	88	3	+3			decreasing
61	21°S	85	1	>6	x		dispersed
62	17°N	76	2	0			decreasing
63	20°N	73	2	+3			decreasing
64	13°S	66	1	>6	x		dispersed
65	10°N	59	7	>6		52	decreasing
66	0	57	2	+5			dispersed
67	13°S	56	1	>6	x		dispersed
68	10°N	53	2	-2			dispersed
69	17°N	53	3	>6			decreasing
70	7°S	47	2	+3			dispersed
71	8°S	42	2	+5			dispersed
72	29°S	40	1	+1	x		disappeared
73	9°N	27	1	>6	x		decreasing
74	19°N	24	1	>6	x		decreasing
75	8°S	18	1	>6	x		dispersed
76	16°N	18	1	>6	x	57	decreasing
77	15°S	9	1	>6	x	60	decreasing
78	19°S	9	2	+1			decreasing

ACTIVE REGIONS
CARRINGTON ROTATION 1713
(September 15 to October 12, 1981)

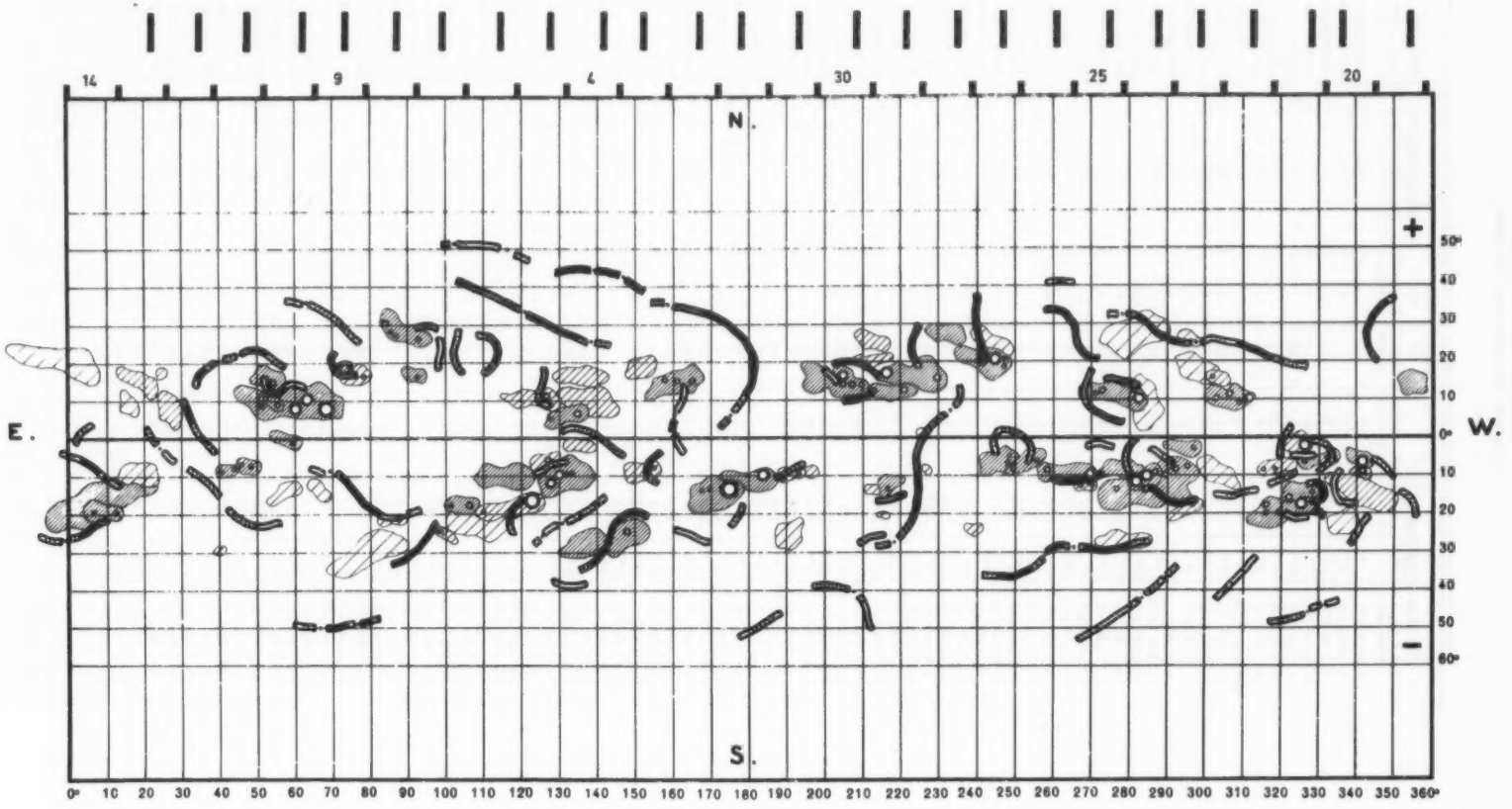
Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1712	Activity at West Limb
1	17°S	358	2	-1			decreasing
2	5°S	346	1	>6	x		dispersed
3	16°N	343	5	+2			decreasing
4	20°S	343	1	>6	x		dispersed
5	20°N	336	4	>6			decreasing
6	19°N	326	3	-1			decreasing
7	4°S	324	1	>6	x		dispersed
8	18°S	322	2	>6			decreasing
9	22°S	322	1	>6	x	9	dispersed
10	11°N	317	1	>6	x	11	dispersed
11	6°S	314	2	>6			decreasing
12	16°S	311	1	>6	x		dispersed
13	12°N	305	2	>6			decreasing
14	12°S	300	1	>6	x		decreasing
15	21°S	300	1	-1	x		decreasing
16	15°N	290	1	>6	x		dispersed
17	10°S	287	2	>6		17	decreasing
18	13°N	282	2	>6			decreasing
19	18°S	282	1	>6	x		dispersed
20	22°S	273	2	0			dispersed
21	10°N	264	4	>6			decreasing
22	10°S	250	3	>6			decreasing
23	7°S	247	2	>6			dispersed
24	21°N	246	1	>6	x		decreasing
25	18°S	239	1	+5	x		disappeared
26	9°S	230	3	+1			decreasing
27	28°N	227	1	>6	x	29	dispersed
28	12°N	225	1	>6	x	32	dispersed
29	18°N	225	1	>6	x	31	decreasing
30	27°N	209	1	>6	x	35	dispersed
31	7°S	205	1	>6	x		decreasing
32	16°N	201	1	>6	x	37	decreasing
33	9°S	194	2	>6			decreasing
34	7°N	189	4	+2			decreasing
35	8°S	189	2	+4			decreasing
36	18°S	181	2	>6			decreasing
37	15°S	170	2	>6			decreasing
38	17°N	160	1	-1	x		dispersed
39	18°N	157	3	>6			decreasing
40	7°S	155	3	+4			decreasing
41	6°N	149	2	>6			decreasing
42	16°S	144	2	-4			stable
43	9°S	143	1	>6	x		decreasing
44	16°N	141	2	+2			dispersed
45	14°S	138	2	>6			decreasing
46	9°N	137	2	>6			dispersed
47	30°S	135	1	>6	x		dispersed
48	14°N	133	3	>6			decreasing
49	17°S	125	2	>6			decreasing
50	11°S	118	1	>6	x		dispersed
51	13°N	114	5	+4			stable
52	17°S	104	3	>6		57	decreasing
53	8°N	100	1	+3	x		stable
54	29°S	95	1	>6	x		dispersed
55	7°S	92	3	+3			decreasing
56	7°N	91	1	>6	x		dispersed
57	11°S	89	3	0			decreasing
58	22°S	85	2	-2			disappeared
59	7°S	74	2	>6			decreasing
60	8°N	73	1	>6	x	65	decreasing
61	17°N	71	2	-4			?
62	7°S	70	1	>6	x		dispersed
63	19°N	68	2	>6			decreasing
64	9°N	59	3	>6			decreasing
65	10°S	54	4	+3			decreasing
66	12°N	49	1	>6	x	65+69	decreasing
67	14°S	36	2	-3			decreasing
68	17°N	27	1	>6	x		decreasing
69	18°S	22	1	>6	x		decreasing
70	9°S	21	1	>6	x		dispersed
71	20°N	18	3	0			decreasing
72	17°S	8	1	>6	x	77	decreasing
73	16°S	0	3	+4			decreasing

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1712

AUGUST 18 - SEPTEMBER 15, 1981

MEUDON OBSERVATORY

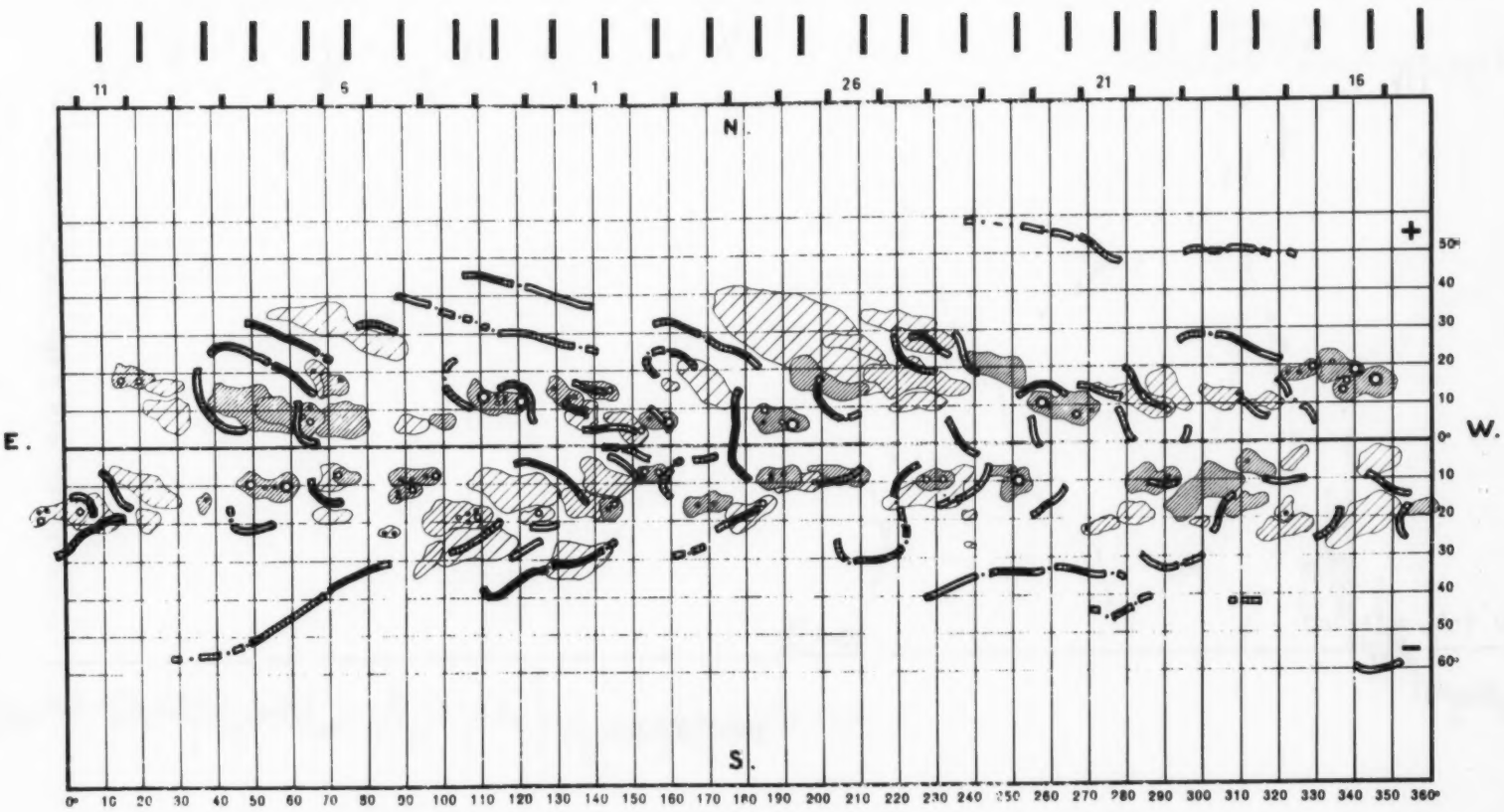


SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1713

SEPTEMBER 15 - OCTOBER 12, 1981

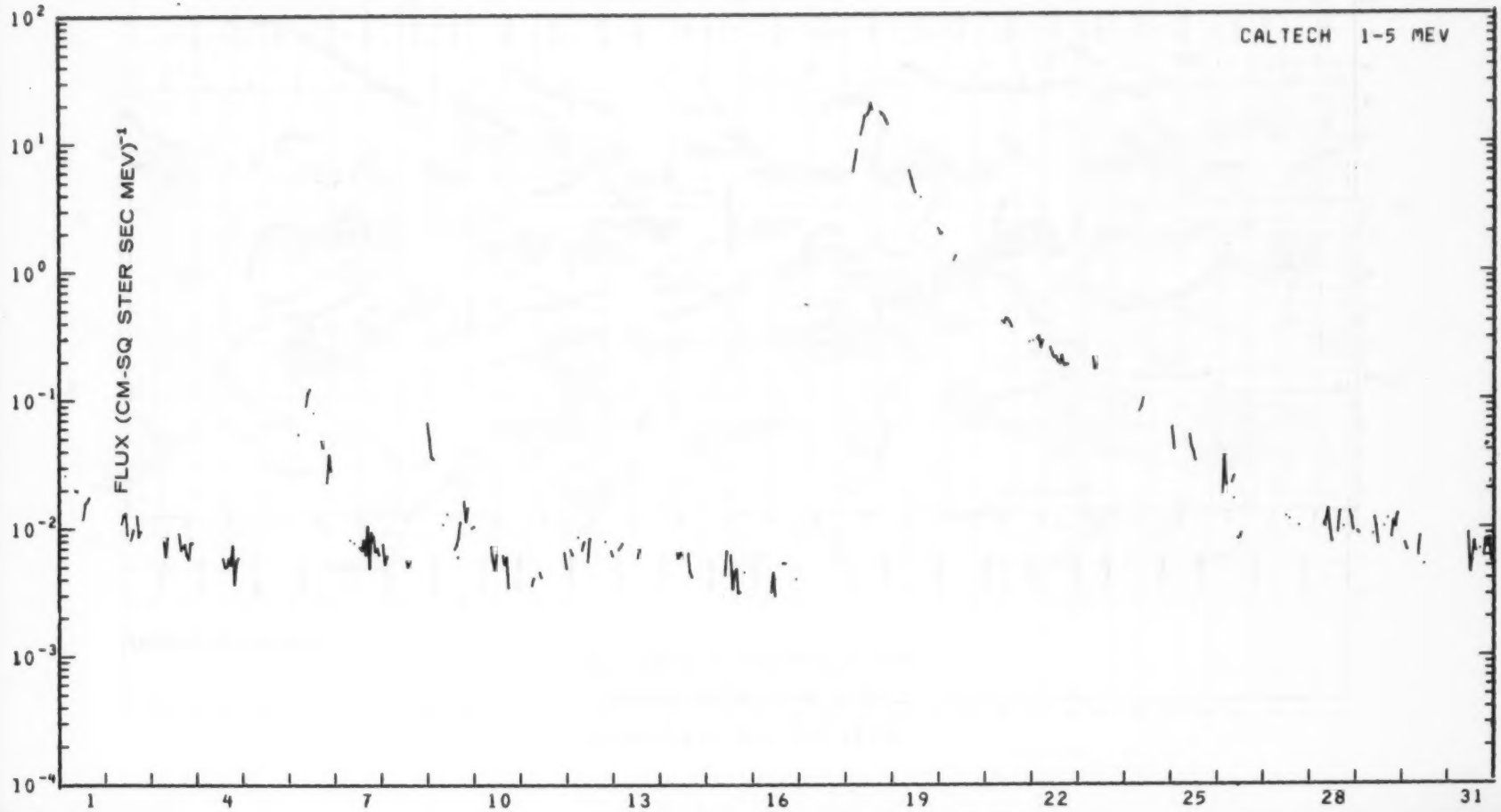
MEUDON OBSERVATORY



59
Misc
Aug-Oct 81

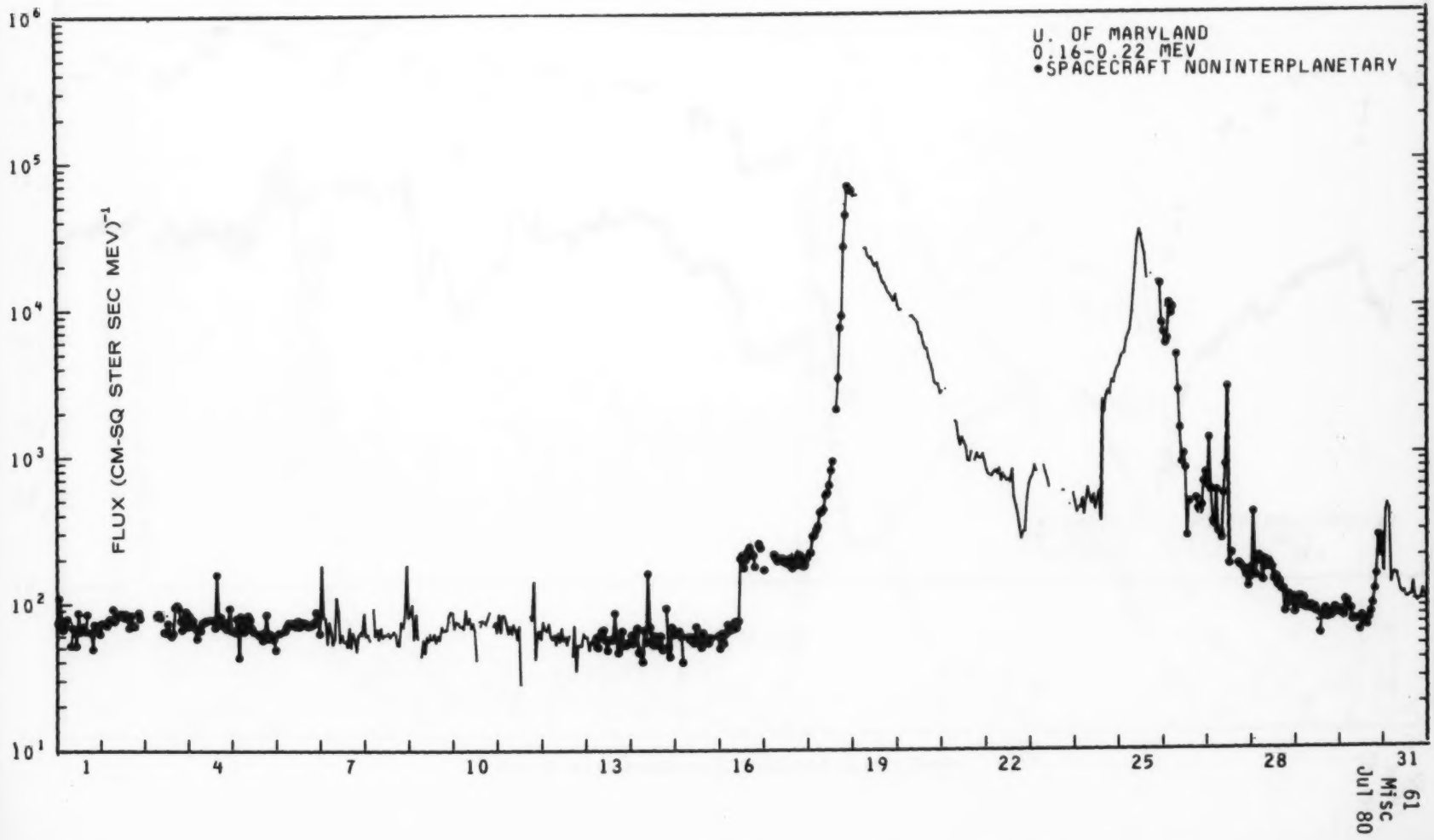
IMP 8 ELECTRONS

JULY, 1980



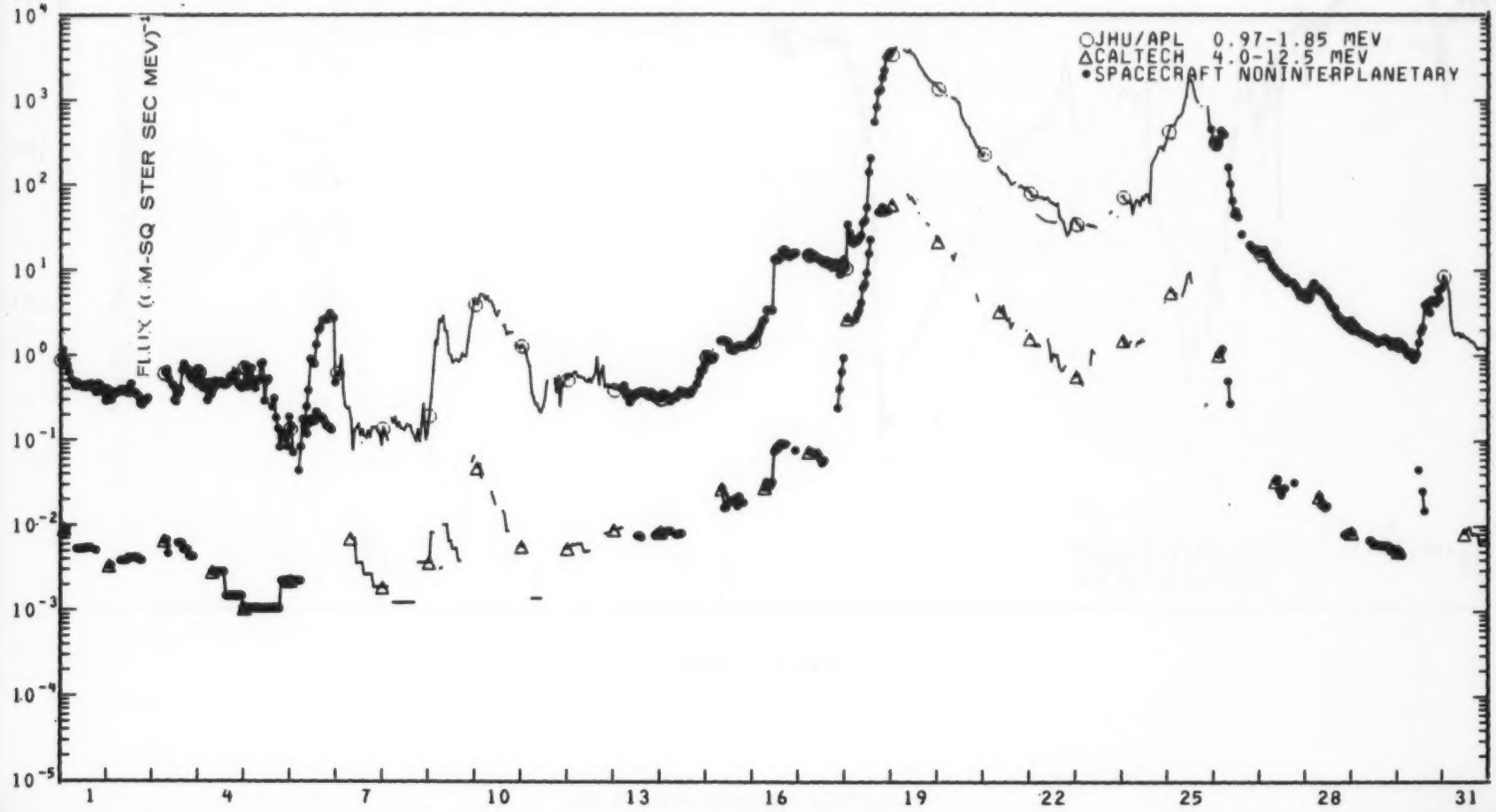
IMP 8 LOW ENERGY PROTONS

JULY, 1980



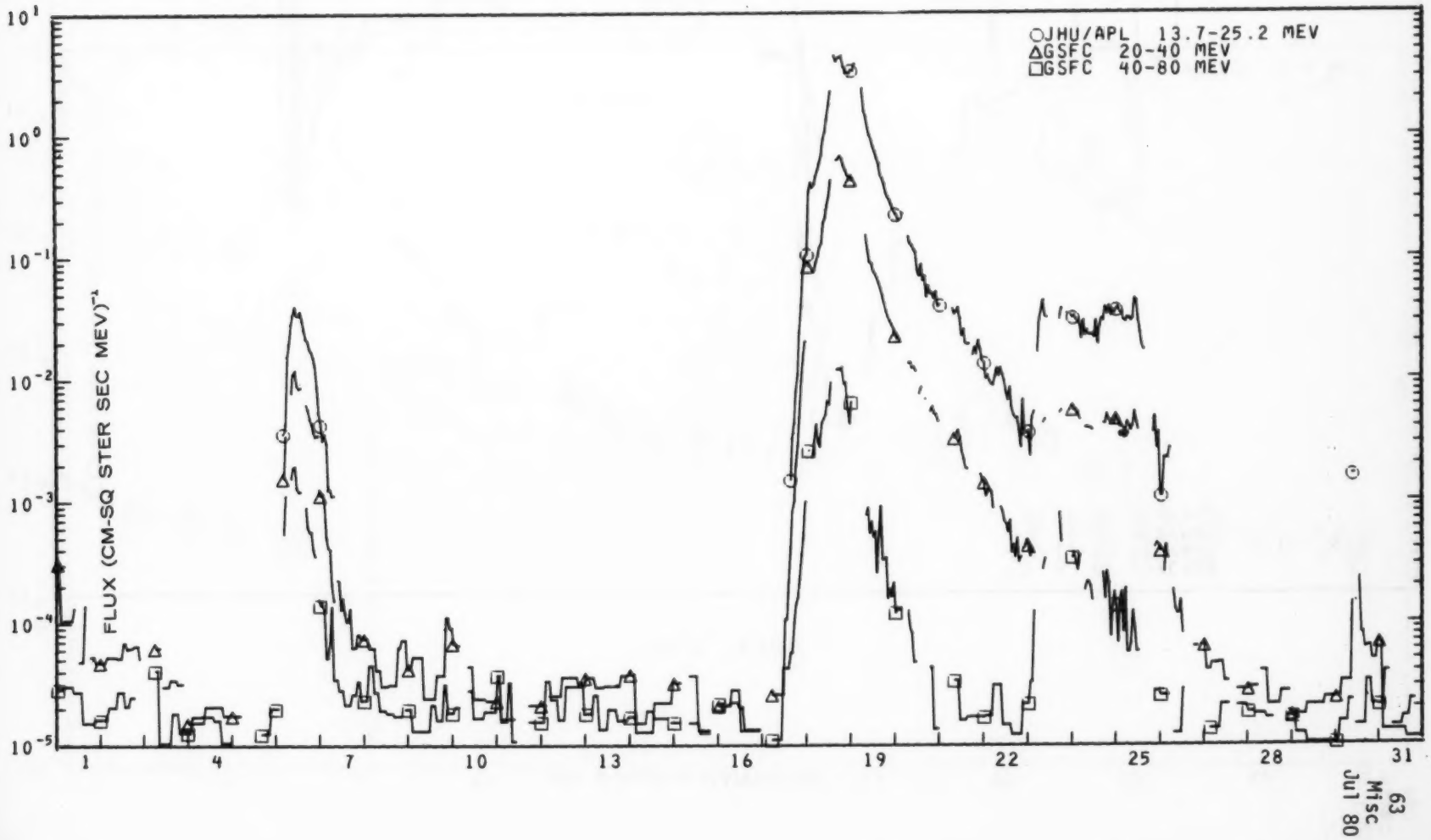
IMP 8 INTERMEDIATE ENERGY PROTONS

JULY, 1980



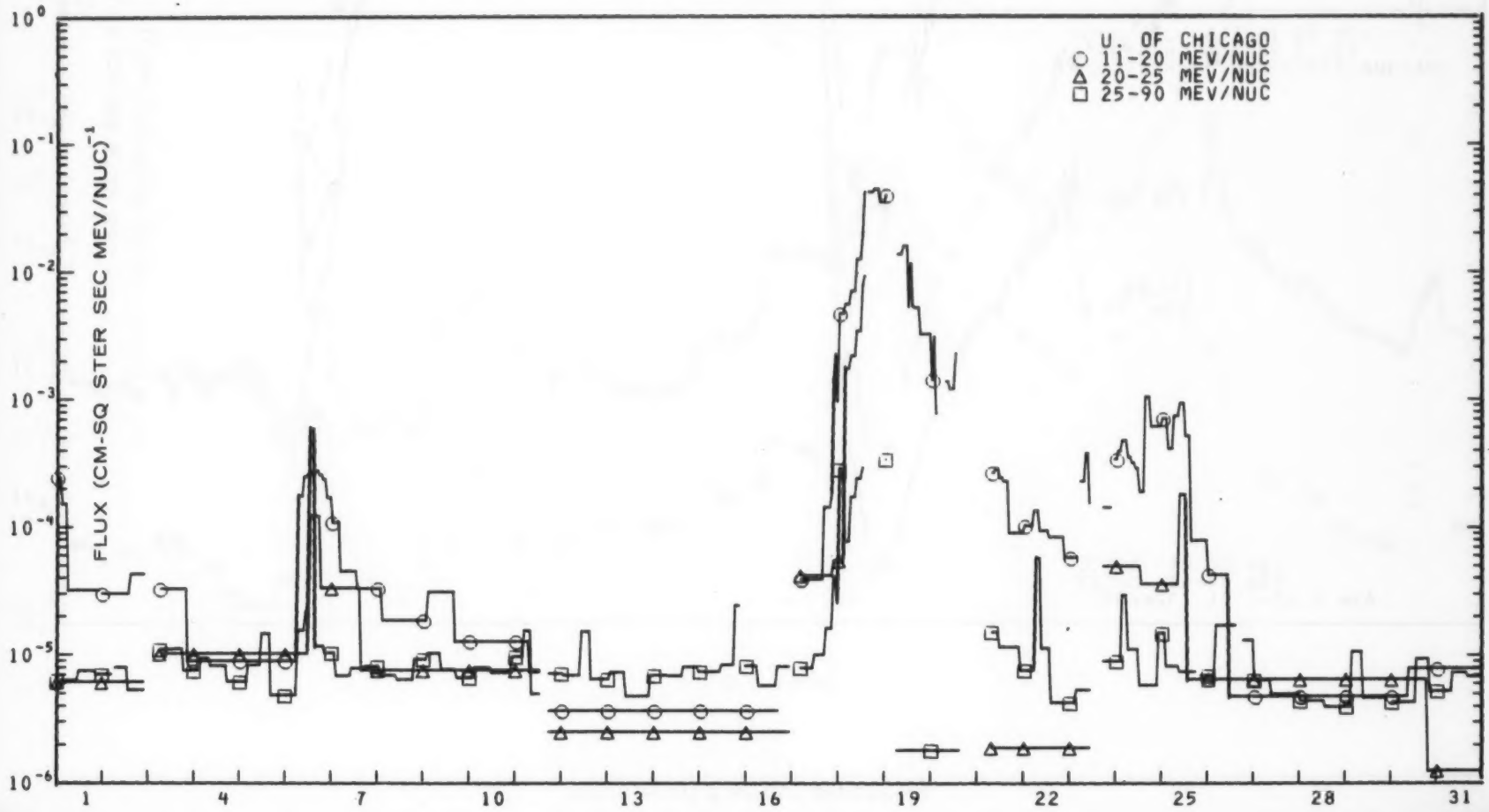
IMP 8 HIGH ENERGY PROTONS

JULY, 1980



IMP 8 ALPHA PARTICLES

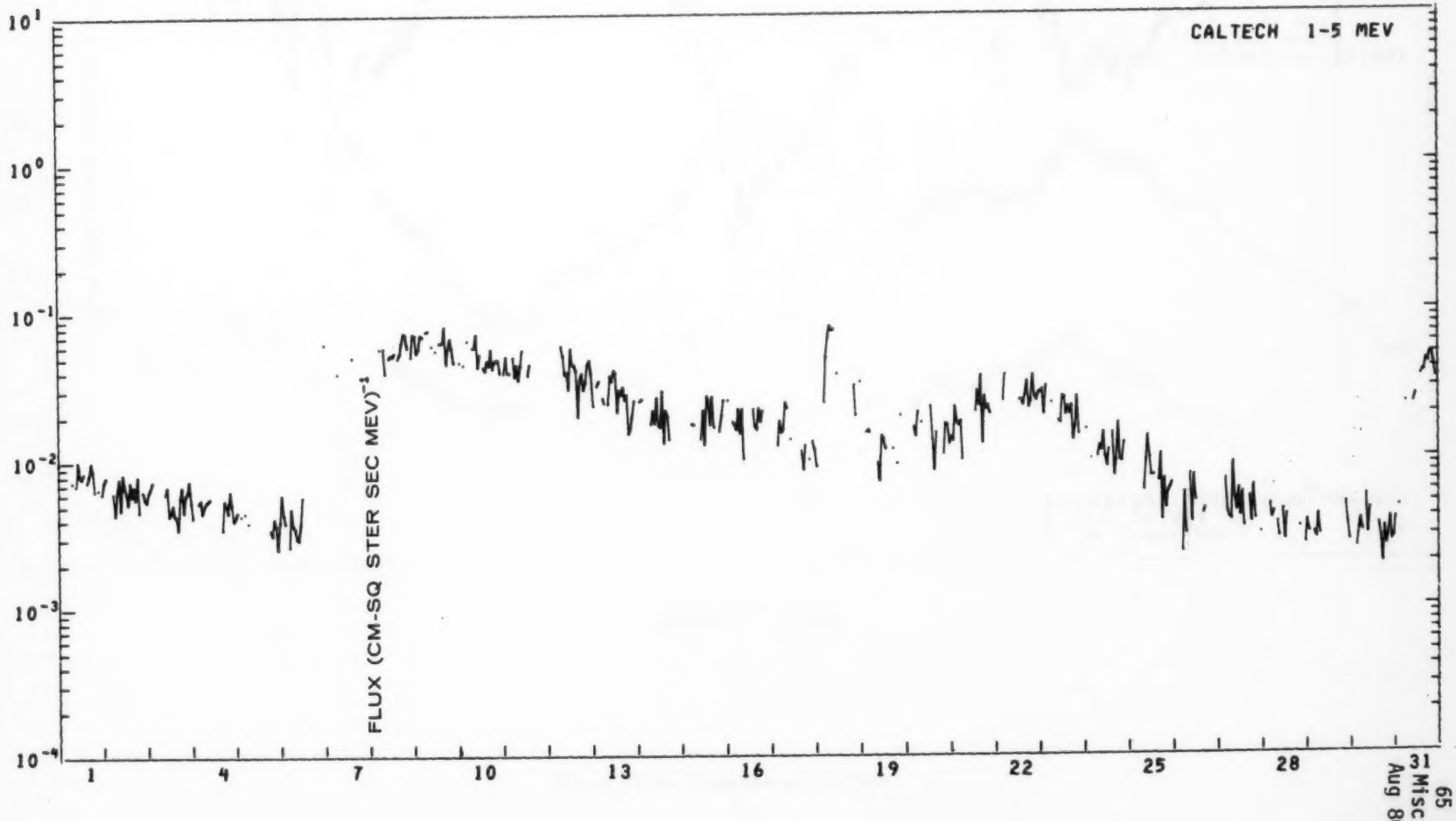
JULY, 1980



IMP 8 ELECTRONS

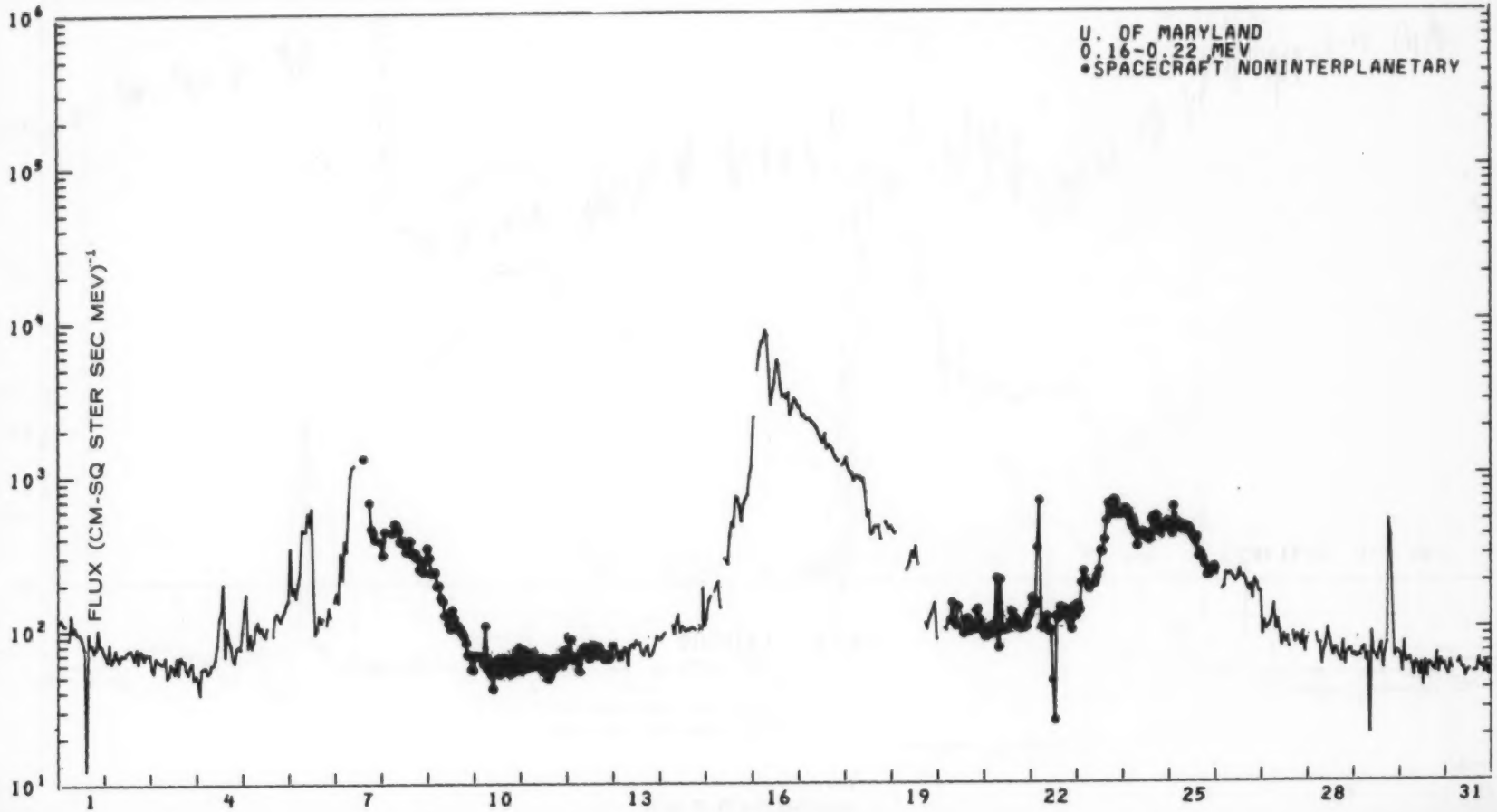
IMP 8 ELECTRONS

AUGUST, 1980



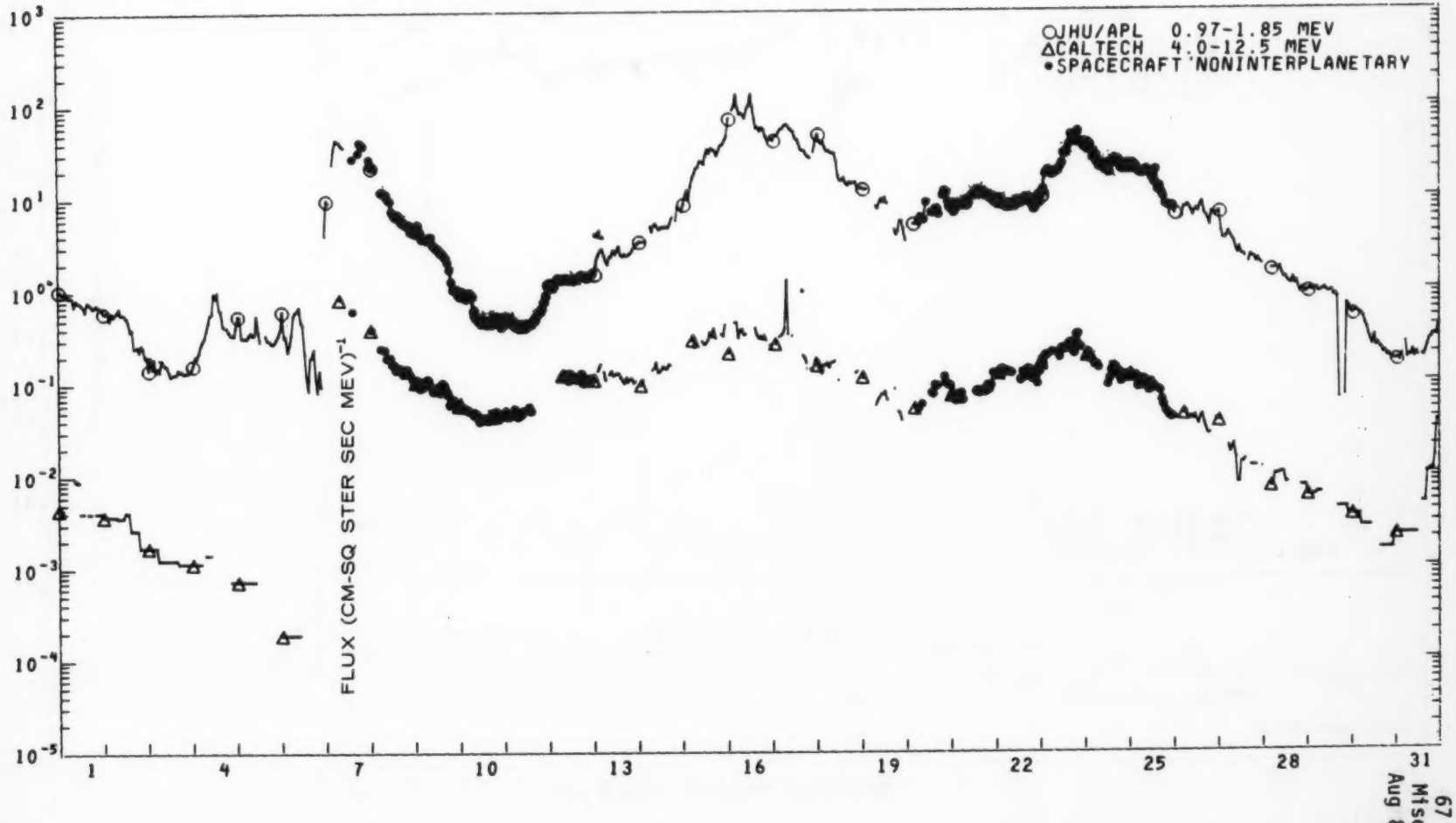
IMP 8 LOW ENERGY PROTONS

AUGUST, 1980



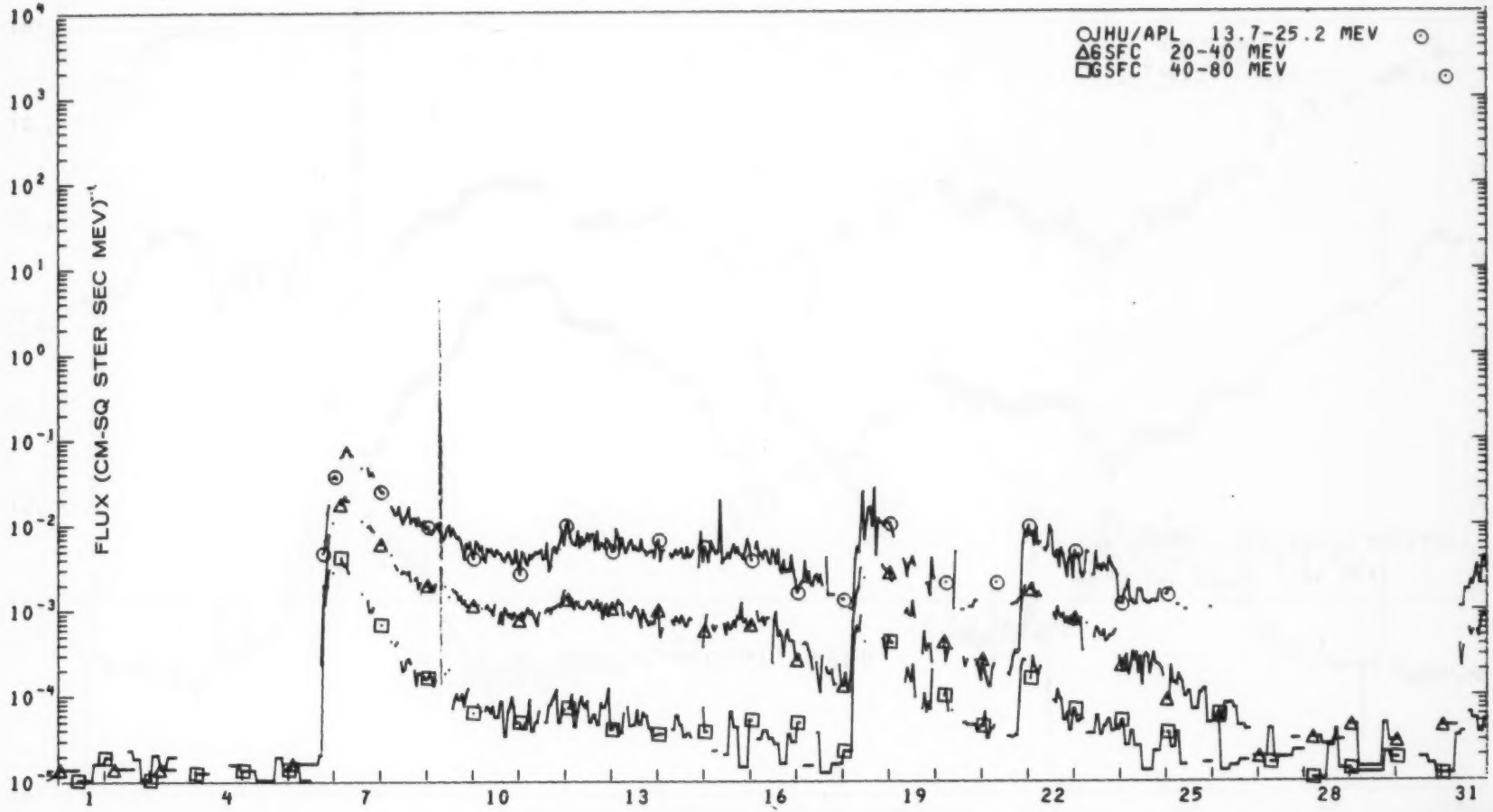
IMP 8 INTERMEDIATE ENERGY PROTONS

AUGUST, 1980



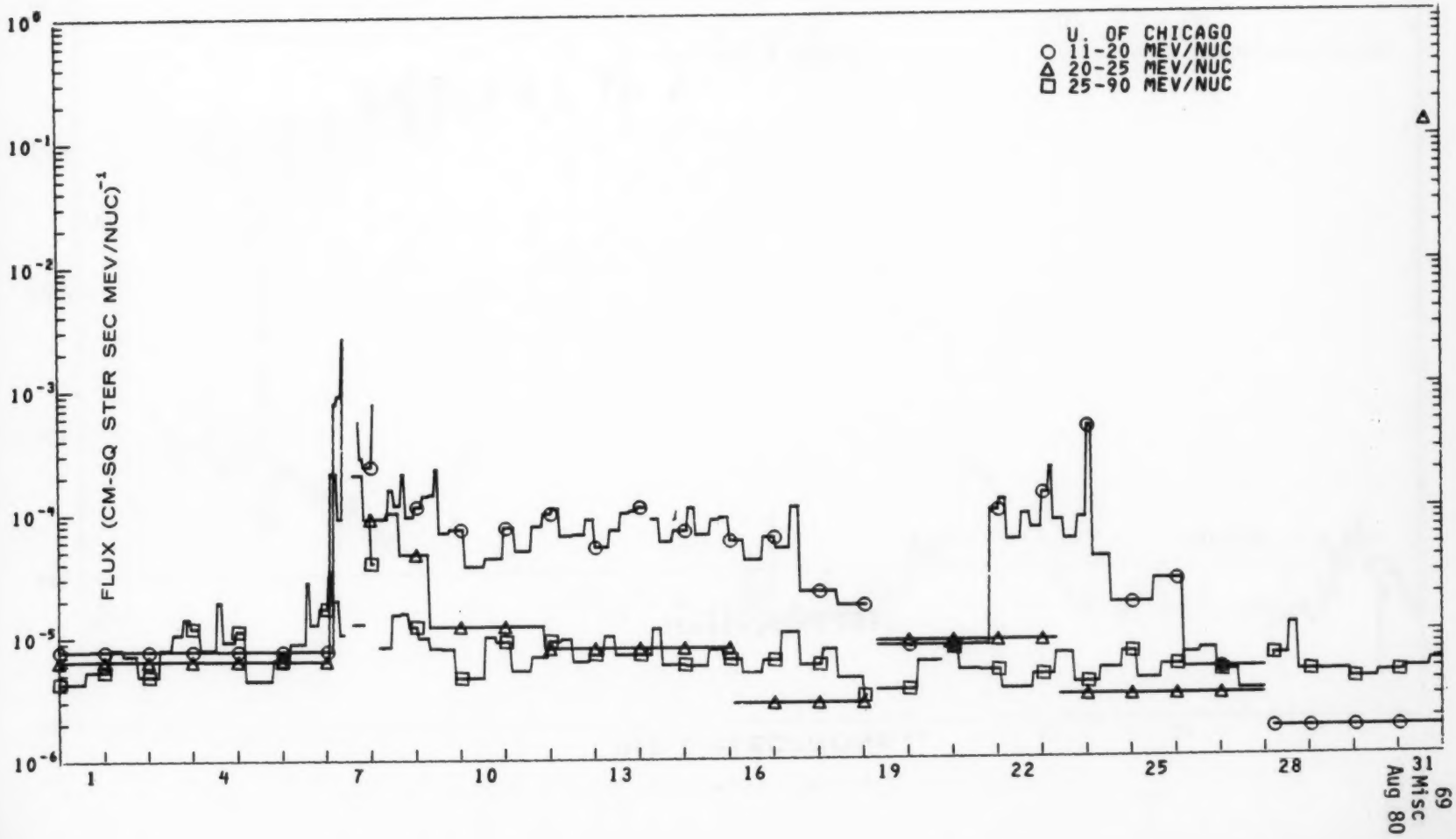
IMP 8 HIGH ENERGY PROTONS

AUGUST, 1980



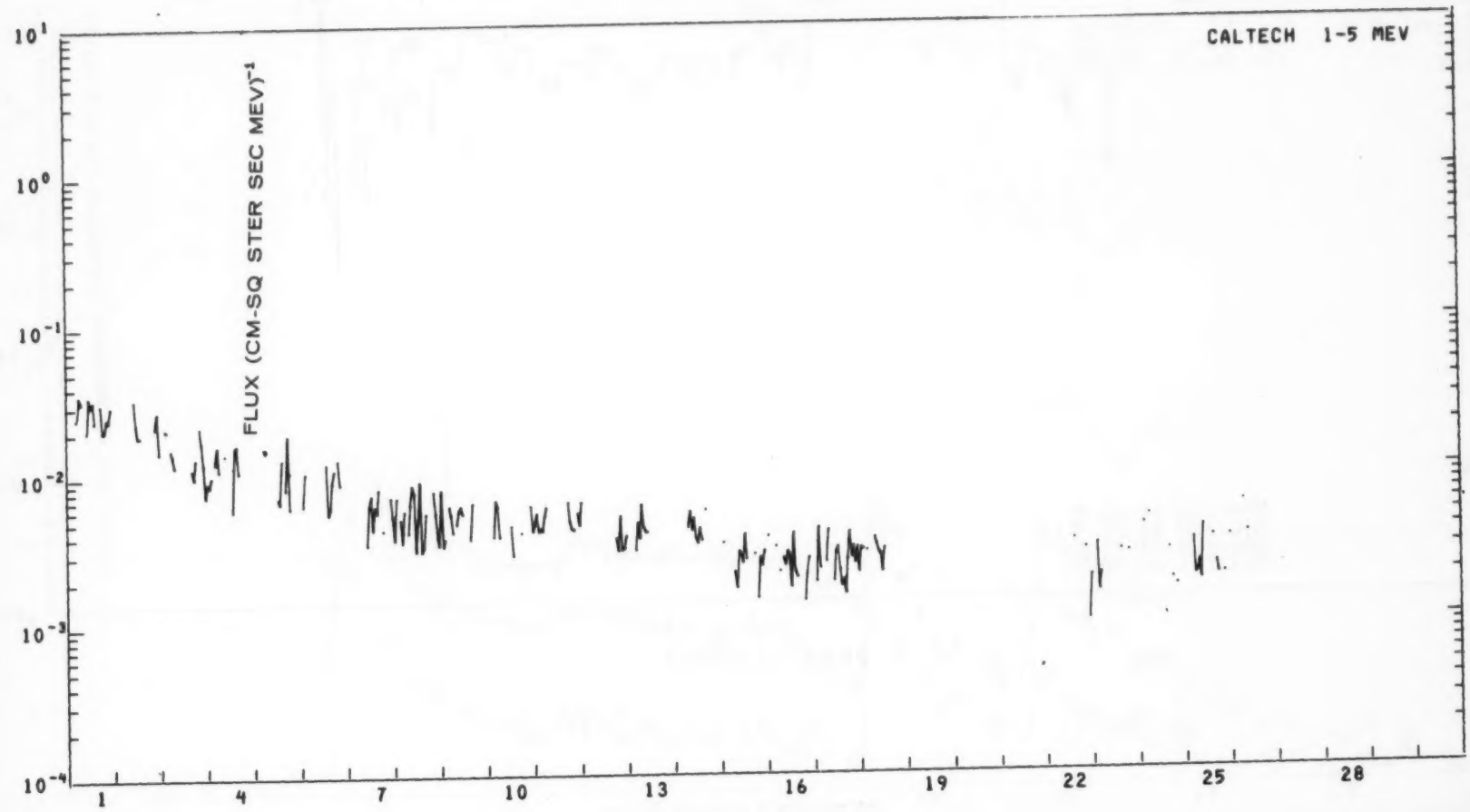
IMP 8 ALPHA PARTICLES

AUGUST, 1980



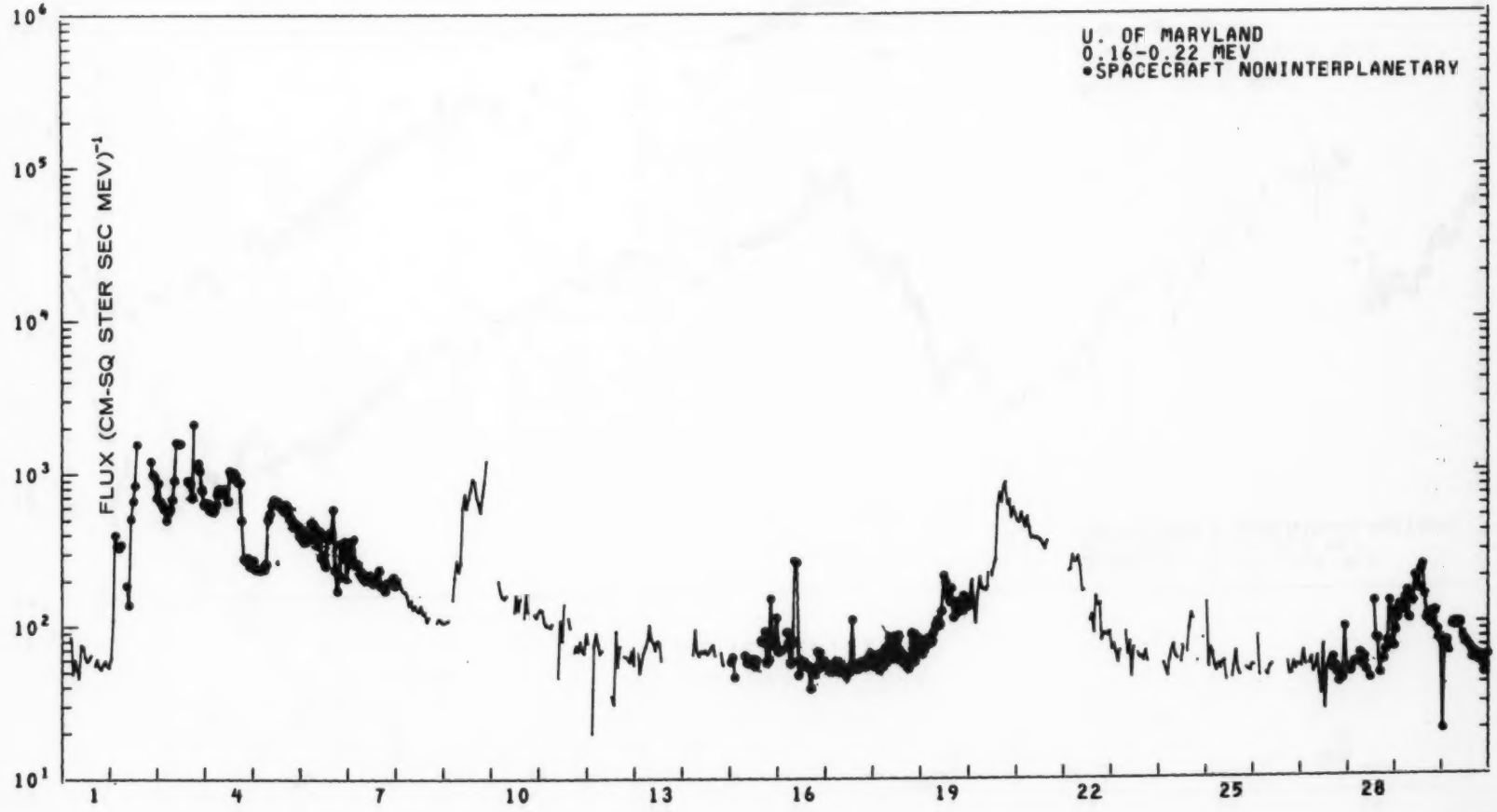
IMP 8 ELECTRONS

SEPTEMBER, 1980



IMP 8 LOW ENERGY PROTONS

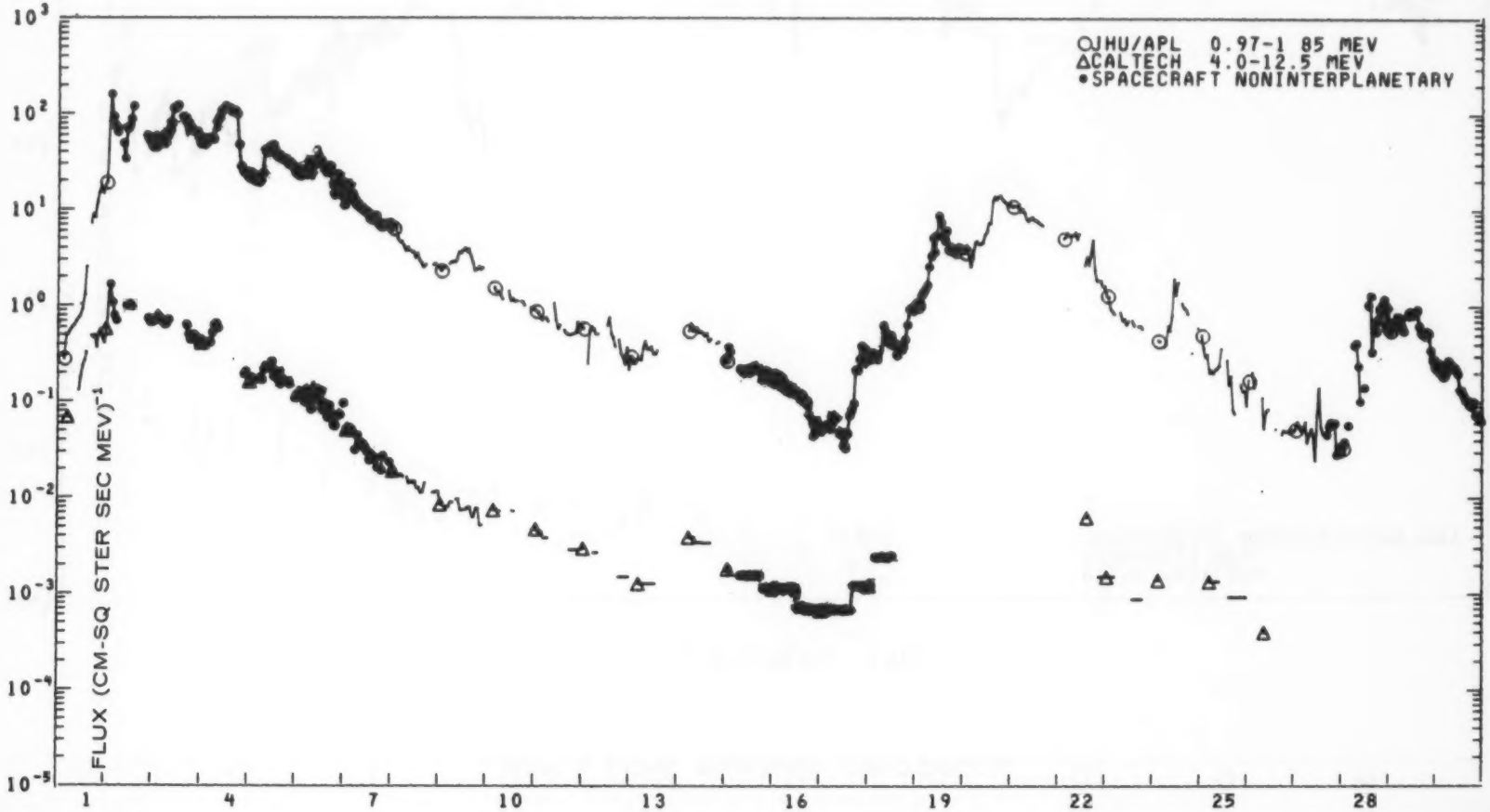
SEPTEMBER, 1980



71
Misc
Sep 80

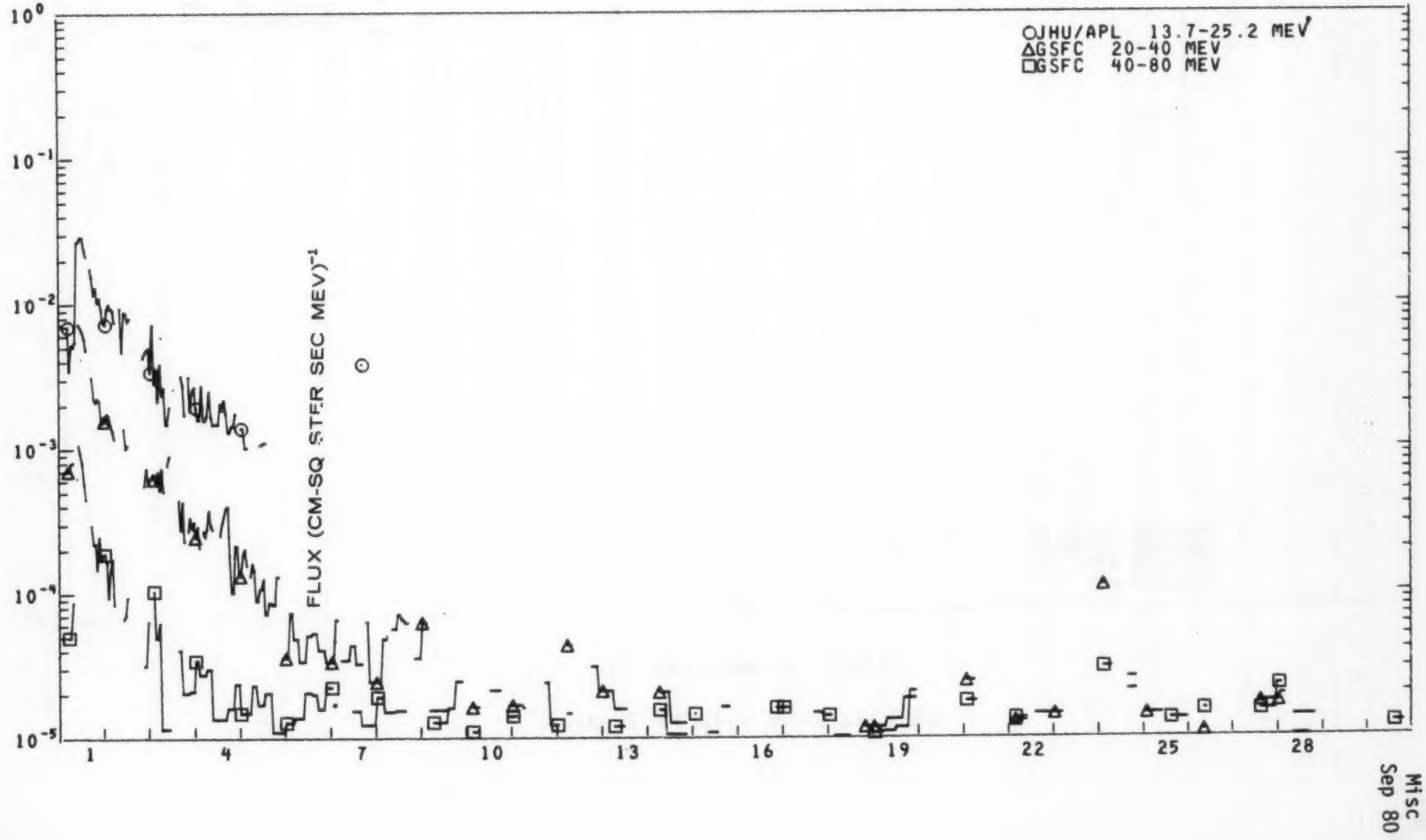
IMP 8 INTERMEDIATE ENERGY PROTONS

SEPTEMBER, 1980



IMP 8 HIGH ENERGY PROTONS

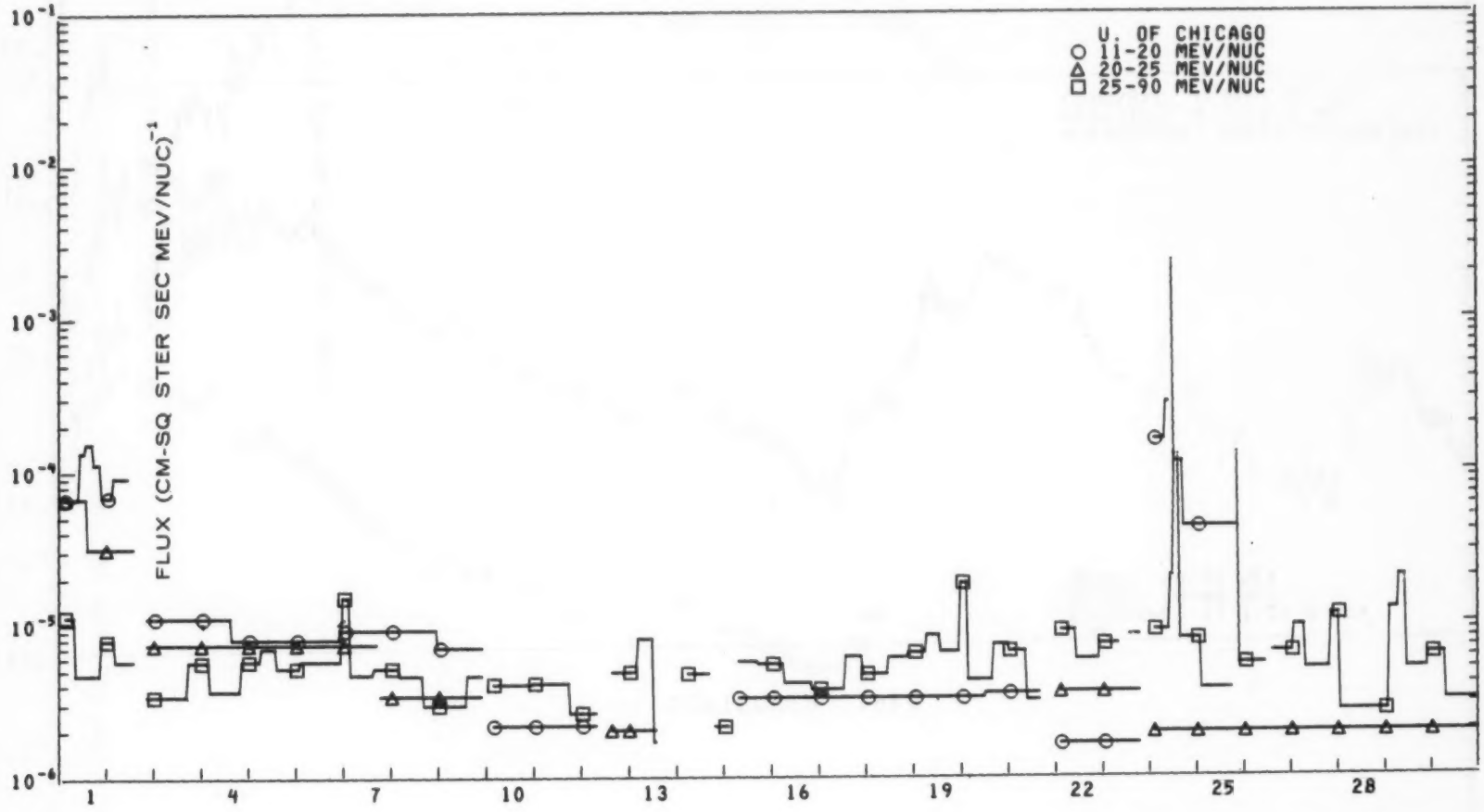
SEPTEMBER, 1980



73
Misc
Sep 80

IMP 8 ALPHA PARTICLES

SEPTEMBER, 1980



UAG SERIES OF REPORTS

Between 4 and 12 UAG Reports are published at irregular intervals each year. Subscriptions may be ordered through the National Geophysical and Solar-Terrestrial Data Center, Environmental Data and Information Service, NOAA, Boulder, CO 80303, USA. The subscription price for the calendar year only is $40.00 ($23.00 additional for foreign mailing). Each year the single copy prices total less than $40.00, the expiration date for all subscriptions will be extended. Back issues may be purchased at the prices shown below plus a $4.00 handling charge per order; some reports, though, are available only on microfiche. Orders must include check or money order payable in U.S. currency to the Department of Commerce, NOAA/NGSDC.

UAG-1 "IQSY Night Airglow Data," by L.L. Smith, F.E. Roach, and J.M. McKennan, ESSA Aeronomy Laboratory, Boulder, CO, July 1968, 305 pp, $1.75.

UAG-2 "A Reevaluation of Solar Flares, 1964-1966," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, August 1968, 28 pp, $0.30.

UAG-3 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 6 July 1966 through 8 September 1968," by James W. Warwick and George A. Dulk, University of Colorado, Boulder, CO, October 1968, 35 pp, $0.55.

UAG-4 "Abbreviated Calendar Record 1966-1967," by J. Virginia Lincoln, Hope I. Leighton and Dorothy K. Kropp, ESSA now NOAA, Aeronomy and Space Data Center, Boulder, CO, January 1969, 170 pp, $1.25.

UAG-5 "Data on Solar Event of May 23, 1967 and its Geophysical Effects," compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, February 1969, 120 pp, $0.65.

UAG-6 "International Geophysical Calendars 1957-1969," by A.H. Shapley and J. Virginia Lincoln, ESSA Research Laboratories, now NOAA, Boulder, CO, March 1969, 25 pp, $0.30.

UAG-7 "Observations of the Solar Electron Corona: February 1964 - January 1968," by Richard T. Hansen, High Altitude Observatory, NCAR, Boulder, CO, and Kamuela, HI, October 1969, 12 pp, $0.15.

UAG-8 "Data on Solar-Geophysical Activity October 24 - November 6, 1968," Parts 1 and 2, compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, March 1970, 312 pp, $1.75 (includes Parts 1 and 2).

UAG-9 "Data on Cosmic Ray Event of November 18, 1968 and Associated Phenomena," compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, April 1970, 109 pp, $0.55.

UAG-10 "Atlas of Ionograms," edited by A.H. Shapley, ESSA Research Laboratories now NOAA, Boulder, CO, May 1970, 243 pp, $1.50.

UAG-12 "Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970," Parts 1, 2 and 3, compiled by J. Virginia Lincoln and Dale B. Bucknam, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, April 1971, 466 pp, $3.00 (includes Parts 1-3).

UAG-13 "Data on the Solar Proton Event of November 2, 1969 through the Geomagnetic Storm of November 8-10, 1969," compiled by Dale B. Bucknam and J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, May 1971, 76 pp, $0.90.

UAG-14 "An Experimental, Comprehensive Flare Index and Its Derivation for 'Major" Flares, 1955-1969," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, July 1971, 25 pp, $0.30.

UAG-16 "Temporal Development of the Geophysical Distribution of Auroral Absorption for 30 Substorm Events in each of IQSY (1964-65) and IASY (1960)," by F.T. Berkey, University of Alaska, Fairbanks, AK; V.M. Driatskiy, Arctic and Antarctic Research Institute, Leningrad, USSR; K. Henriksen, Auroral Observatory, Tromson, Norway; D.H. Jelly, Communications Research Center, Ottawa, Canada; T.I. Shchuka, Arctic and Antarctic Research Institute, Leningrad, USSR; A. Theander, Kiruna Geophysical Observatory, Kiruna, Sweden; and J. Yliniemi, University of Oulu, Oulu, Finland, September 1971, 131 pp, $0.70 (microfiche only).

UAG-17 "Ionospheric Drift Velocity Measurements at Jicamarca, Peru (July 1967 - March 1970)," by Ben B. Balsley, NOAA Aeronomy Laboratory, Boulder, CO, and Ronald F. Woodman, Jicamarca Radar Observatory, Instituto Geofisico del Peru, Lima, Peru, October 1971, 45 pp, $0.55 (microfiche only).

UAG-18 "A Study of Polar Cap and Auroral Zone Magnetic Variations," by K. Kawasaki and S.-I. Asasofu, University of Alaska, Fairbanks, AK, June 1972, 21 pp, $0.20.

UAG-19 "Reevaluation of Solar Flares 1967," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, and Marta Rovira de Miceli, San Miguel Observatory, Argentina, June 1972, 15 pp, $0.15.

UAG-21 "Preliminary Compilation of Data for Retrospective World Interval July 26 - August 14, 1972," by J. Virginia Lincoln and Hope I. Leighton, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, November 1972, 128 pp, $0.70.

UAG-22 "Auroral Electrojet Magnetic Activity Indices (AE) for 1970," by Joe Haskell Allen, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, November 1972, 146 pp, $0.75.

UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction," Second Edition, November 1972, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 324 pp, $1.75.

UAG-23A "U.R.S.I. Handbook of Ionogram Interpretation and Reduction," Second Edition, Revision of Chapters 1-4, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 135 pp, $2.14.

UAG-24 "Data on Solar-Geophysical Activity Associated with the Major Ground Level Cosmic Ray Events of 24 January and 1 September 1971," Parts 1 and 2, compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, December 1972, 462 pp, $2.00 (includes Parts 1 and 2).

UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971," by James W. Warwick, George A. Dulk and David G. Swann, University of Colorado, Boulder, CO, February 1973, 35 pp, $0.35.

UAG-26 "Data Compilation for the Magnetospherically Quiet Periods February 19-23 and November 29 - December 3, 1970," compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, May 1973, 129 pp, $0.70.

UAG-27 "High Speed Streams in the Solar Wind," by D.S. Intriligator, University of Southern California, Los Angeles, CA, June 1973, 16 pp, $0.15.

UAG-28 "Collected Data Reports on August 1972 Solar-Terrestrial Events," Parts 1, 2 and 3, edited by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, July 1973, 932 pp, $4.50.

UAG-29 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1968," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, October 1973, 148 pp, $0.75.

UAG-30 "Catalogue of Data on Solar-Terrestrial Physics," prepared by NOAA Environmental Data Service, Boulder, CO, October 1973, $1.50. Supersedes UAG-11, 15, and 20 catalogs.

UAG-31 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1969," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1974, 142 pp, $0.75.

UAG-32 "Synoptic Radio Maps of the Sun at 3.3 mm for the Years 1967-1969," by Earle B. Mayfield, Kennon P. White III, and Fred I. Shimabukuro, Aerospace Corp., El Segundo, CA, April 1974, 26 pp, $0.35.

UAG-33 "Auroral Electrojet Magnetic Activity Indices AE(10) for 1967," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, May 1974, 142 pp, $0.75.

UAG-34 "Absorption Data for the IGY/IGC and IQSY," compiled and edited by A.H. Shapley, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; W.R. Piggott, Appleton Laboratory, Slough, UK; and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, June 1974, 381 pp, $2.00.

UAG-35 "Catalogue of Digital Geomagnetic Variation Data at World Data Center A for Solar-Terrestrial Physics," prepared by NOAA Environmental Data Service, Boulder, CO, July 1974, 20 pp, $0.20.

UAG-36 "An Atlas of Extreme Ultraviolet Flashes of Solar Flares Observed via Sudden Frequency Deviations During the ATM-SKYLAB Missions," by R.F. Donnelly and E.L. Berger, NOAA Space Environment Laboratory; Lt. J.D. Busman, NOAA Commissioned Corps; B. Henson, NASA Marshall Space Flight Center; T.B. Jones, University of Leicester, UK; G.M. Lerfald, NOAA Wave Propagation Laboratory; K. Najita, University of Hawaii; W.M. Retallack, NOAA Space Environment Laboratory and W.J. Wagner, Sacramento Peak Observatory, October 1974, 95 pp, $0.55.

UAG-37 "Auroral Electrojet Magnetic Activity Indices AE(10) for 1966," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, December 1974, 142 pp, $0.75.

UAG-38 "Master Station List for Solar-Terrestrial Physics Data at WDC-A for Solar-Terrestrial Physics," by R.W. Buhmann, World Data Center A for Solar-Terrestrial Physics, Boulder, CO; Juan D. Roederer, University of Denver, Denver, CO; and M.A. Shea and D.F. Smart, Air Force Cambridge Research Laboratories, Hanscom AFB, MA, December 1974, 110 pp, $1.60.

UAG-39 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1971," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1975, 144 pp, $2.05.

UAG-40 "H-Alpha Synoptic Charts of Solar Activity for the Period of Skylab Observations, May 1973 - March 1974," by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO, February 1975, 32 pp, $0.56.

UAG-41 "H-Alpha Synoptic Charts of Solar Activity During the First Year of Solar Cycle 20 October 1964 - August 1965," by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO and Jerome T. Nolte, American Science and Engineering, Inc., Cambridge, MA, March 1975, 25 pp, $0.48.

UAG-42 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-80 MHz, 10 December 1971 through 21 March 1975," by James W. Warwick, George A. Dulk and Anthony C. Riddle, University of Colorado, Boulder, CO, April 1975, 49 pp, $1.15.

UAG-43 "Catalog of Observation Times of Ground-Based Skylab-Coordinated Solar Observing Programs," compiled by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, May 1975, 159 pp, $3.00.

UAG-44 "Synoptic Maps of Solar 9.1 cm Microwave Emission from June 1962 to August 1973," by Werner Graf and Ronald N. Bracewell, Stanford University, Stanford, CA, May 1975, 183 pp, $2.55.

UAG-45 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1972," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, May 1975, 144 pp, $2.10 (microfiche only).

UAG-46 "Interplanetary Magnetic Field Data 1963-1964," by Joseph H. King, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, MD, June 1975, 382 pp, $1.95.

UAG-47 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1973," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, June 1975, 144 pp, $2.10 (microfiche only).

UAG-48A "Synoptic Observations of the Solar Corona during Carrington Rotations 1580-1596 (11 October 1971 - 15 January 1973)," [Reissue of UAG-48 with quality images], by R.A. Howard, M.J. Koomen, D.J. Michels, R. Tousey, C.R. Detwiler, D.E. Roberts, R.T. Seal, and J.D. Whitney, U.S. Naval Research Laboratory, Washington, DC, and R.T. Hansen and S.F. Hansen, C.J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, CO, February 1976, 200 pp, $4.27.

UAG-49 "Catalog of Standard Geomagnetic Variation Data," prepared by NOAA Environmental Data Service, Boulder, CO, August 1975, 125 pp, $1.85.

UAG-50 "High-Latitude Supplement to the URSI Handbook on Ionogram Interpretation and Rediction," edited by W.R. Piggott, British Antarctic Survey, c/o Appleton Laboratory, Slough, UK, October 1975, 294 pp, $4.00.

UAG-51 "Synoptic Maps of Solar Coronal Hole Boundaries Derived from He II 304A Spectroheliograms from the Manned Skylab Missions," by J.D. Bohlin and D.M. Rubenstein, U.S. Naval Research Laboratory, Washington, DC, November 1975, 30 pp, $0.54.

UAG-52 "Experimental Comprehensive Solar Flare Indices for Certain Flares, 1970-1974," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan Pontiac, MI, November 1975, 27 pp, $0.60.

UAG-53 "Description and Catalog of Ionospheric F-Region Data, Jicamarca Radio Observatory (November 1966 - April 1969), by W.L. Clark and T.E. Van Zandt, NOAA Aeronomy Laboratory, Boulder, CO, and J.P. McClure, University of Texas as Dallas, Dallas, TX, April 1976, 10 pp, $0.33.

UAG-54 "Catalog of Ionosphere Vertical Soundings Data," prepared by NOAA Environmental Data Service, Boulder, CO, April 1976, 130 pp, $2.10.

UAG-55 "Equivalent Ionospheric Current Representations by a New Method, Illustrated for 8-9 November 1969 Magnetic Disturbances," by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, CO; H.W. Kroehl, Data Studies Division, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; M. Kanamitsu, Advanced Study Program, National Center for Atmospheric Research, Boulder, CO; Joe Haskell Allen, Data Studies Division, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; and S.-I Akasofu, Geophysical Institute, University of Alaska, Fairbanks, AK, April 1976, 91 pp, $1.60 (microfiche only).

UAG-56 "Iso-intensity Contours of Ground Magnetic H Perturbations for the December 16-18, 1971, Geomagnetic Storm," Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, CO, April 1976, 37 pp, $1.39.

UAG-57 "Manual on Ionospheric Absorption Measurements," edited by K. Rawer, Institut fur Physikalische Weltraumforschung, Freiburg, GFR, June 1976, 302 pp, $4.27.

UAG-58 "ATS6 Radio Beacon Electron Content Measurements at Boulder, July 1974 - May 1975," by R.B. Fritz, NOAA Space Environment Laboratory, Boulder, CO, September 1976, 61 pp, $1.04.

UAG-59 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1974," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, December 1976, 144 pp, $2.16.

UAG-60 "Geomagnetic Data for January 1976 (AE(7) Indices and Stacked Magnetograms)," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, July 1977, 57 pp, $1.07.

UAG-61 "Collected Data Reports for STIP Interval II 20 March - 5 May 1976, edited by Helen E. Coffey and John A. McKinnon, World Data Center A for Solar-Terrestrial Physics, Boulder, CO, August 1977, 313 pp, $2.95.

UAG-62 "Geomagnetic Data for February 1976 (AE(7) Indices and Stacked Magnetograms)," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, September 1977, 55 pp, $1.11.

UAG-63 "Geomagnetic Data for March 1976 (AE(7) Indices and Stacked Magnetograms)," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, September 1977, 57 pp, $1.11.

UAG-64 "Geomagnetic Data for April 1976 (AE(8) Indices and Stacked Magnetograms)," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1978, 55 pp, $1.00.

UAG-65 "The Information Explosion and Its Consequences for Data Acquisition, Documentation, Processing," by G.K. Hartmann, Max-Planck-Institut fur Aeronomie, Lindau, GFR, May 1978, 36 pp, $0.75.

UAG-66 "Synoptic Radio Maps of the Sun at 3.3 mm 1970-1973," by Earle B. Mayfield and Fred I. Shimabukuro, Aerospace Corp., El Segundo, CA, May 1978, 30 pp, $0.75.

UAG-67 "Ionospheric D-Region Profile Data Base, A Collection of Computer-Accessible Experimental Profiles of the D and Lower E Regions," by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pp, $0.88 (microfiche only).

UAG-68 "A Comparative Study of Methods of Electron Density Profile Analysis," by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pp, $0.88 (microfiche only).

UAG-69 "Selected Disturbed D-Region Electron Density Profiles. Their relation to the undisturbed D region," by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, October 1978, 50 pp, $1.29 (microfiche only).

UAG-70 "Annotated Atlas of the H-alpha Synoptic Charts for Solar Cycle 20 (1964-1974) Carrington Solar Rotations 1487-1616," by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO, February 1979, 327 pp, $3.50.

UAG-71 "Magnetic Potential Plots over the Northern Hemisphere for 26-28 March 1976," A.D. Richmond, NOAA Space Environment Laboratory, Boulder, CO; H.W. Kroehl, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; M.A. Henning, Lockheed Missils and Space Co., Aurora, CO; and Y. Kamide, Kyoto Sangyo University, Kyoto, Japan, April 1979, 118 pp, $1.50.

UAG-72 "Energy Release in Solar Flares, Proceedings of the Workshop on Energy Release in Flares, 26 February - 1 March 1979, Cambridge, Massachusetts, U.S.A.," edited by David M. Rust, American Science and Engineering, Inc., Cambridge, MA, and A. Gordon Emslie, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, July 1979, 68 pp, $1.50 (microfiche only).

UAG-73 "Auroral Electrojet Magnetic Activity Indices AE(11-12) for January - June 1975," by Joe Haskell Allen, Carl C. Abston, J.E. Salazar and J.A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, August 1979, 114 pp, $1.75.

UAG-74 "ATS-6 Radio Beacon Electron Content Measurements at Ootacamund, India, October - July 1976," by S.D. Bouwer, K. Davies, R.F. Donnelly, R.N. Grubb, J.E. Jones and J.H. Taylor, NOAA Space Environment Laboratory, Boulder, CO, and R.G. Rastogi, M.R. Deshpande, H. Chandra and G. Sethia, Physical Research Laboratory, Ahmedabad, India, March 1980, 58 pp, $2.50.

UAG-75 "The Alaska IMS Meridian Chain: Magnetic Variations for 9 March - 27 April 1978," by H.W. Kroehl and G.P. Kosinski, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; S.-I Akasofu, G.J. Romick, C.E. Campbell and G.K. Corrick, University of Alaska, Fairbanks, AK; and C.E. Hornback and A.M. Gray, NOAA Space Environment Laboratory, Boulder, CO, June 1980, 107 pp, $3.00.

UAG-76 "Auroral Electrojet Magnetic Activity Indices AE(12) for July - December 1975," by Joe Haskell Allen, Carl C. Abston, J.E. Salazar and J.A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, August 1980, 116 pp, $2.50.

UAG-77 "Synoptic Solar Magnetic Field Maps for the Interval Including Carrington Rotations 1601-1680, May 5, 1973 - April 26, 1979," by J. Harvey, B. Gillespie, P. Miedaner and C. Slaughter, Kitt Peak National Observatory, Tucson, AZ, August 1980, 66 pp, $2.50.

UAG-78 "The Equatorial Latitude of Auroral Activity During 1972-1977," by N.R. Sheeley, Jr. and R.A. Howard, E. O. Hulbert Center for Space Research, U.S. Naval Research Laboratory, Washington, DC and B.S. Dandekar, Air Force Geophysics Laboratory, Hanscom AFB, MA, October 1980, 61 pp, $3.00.

UAG-79 "Solar Observations During Skylab, April 1973 - February 1974, I. Coronal X-Ray Structure, II. Solar Flare Activity," by J.M. Hanson, University of Michigan, Ann Arbor, MI; and E.C. Roelof and R.E. Gold, The Johns Hopkins University, Laurel, MD, December 1980, 43 pp, $2.50.

UAG-80 "Experimental Comprehensive Solar Flare Indices for 'Major' and Certain Lesser Flares, 1975-1979," compiled by Helen W. Dodson and E. Ruth Hedeman, The Johns Hopkins University, Laurel, MD, July 1981, 33 pp, $2.00.

UAG-81 "Evolutionary Charts of Solar Activity (Calcium Plages) as Functions of Heliographic Longitude and Time, 1964-1979," by E. Ruth Hedeman, Helen W. Dodson and Edmond C. Roelof, The Johns Hopkins University, Laurel, MD 20707, August 1981, 103 pp, $4.00.

UAG-82 "International Reference Ionosphere - IRI 79," edited by J. Virginia Lincoln and Raymond O. Conkright, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, November 1981, 243 pp, $4.50.

UAG-83 "Solar-Geophysical Activity Reports for September 7-24, 1977 and November 22, 1977," Parts 1 and 2, compiled by John A. McKinnon and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, February 1982, 553 pp, $10.00.

SOME OTHER SOURCES OF DATA

Data Available: Some data available in publication form are cited here. A list is given, along with addresses of the responsible institutions. The WDC-A for Solar-Terrestrial Physics publishes the Toyokawa, Ottawa and Penticton radio data in its monthly publication, *Solar-Geophysical Data*. The WDC-A for Solar-Terrestrial Physics also receives most of the periodicals when they become available.

Belgium: *Bulletin d'Observations: Activite Solaire - Observations Radio-electriques Solaires - 600 MHz (Humain, Belgium)* Observatoire Royal de Belgique, Ave. Circulaire 3, Brussels, Belgium (monthly since 1962)

Canada: *Solar Noise Observations at 2800 Mc/s (Ottawa - ARO) and 2700 Mc/s (Penticton - DRAO)* Series C Monthly Report, National Research Council, Radio Astronomy Section Ottawa 7, Ontario, Canada (since 1947)

France: *Carte Synoptiques de la Chromosphere Solaire* Observatoire de Paris, 92 Meudon, France (monthly since 1931)

Germany: *Daily Mean Value of Solar Flux Density* Heinrich-Hertz Institut, 1199 Berlin-Adlershof, Rudower Chaussee 5, G.D.R. (monthly since Jul 1957)

Italy: *Solar Phenomena - Monthly Bulletin and Photographic Supplement* Osservatorio Astronomica di Roma, Monte Mario, Rome, Italy (monthly since 1958); *Osservazion Solari, Solar Flux and Distinctive Events* Osservatorio Astronomico Di Trieste (quarterly since 1965); *Solar Observations made at Catania Astrophysical Observatory* (annually since 1967)

Japan: *Monthly Report of Solar Radio Emission* Radio Astronomy Section, Research Institute of Atmospherics, Nagoya University, Toyokawa, Japan (since 1956); *Solar Activity Chart* WDC-C2, Toyokawa Observatory, Nagoya University, Toyokawa, Japan (annually since 1968); *IAU Quarterly Bulletin on Solar Activity* Tokyo Astronomical Observatory, Mitaka, Tokyo, Japan (since 1978)

Netherlands: *Geomagnetic Data* IAGA Bulletin No. 12 (1932-69), No. 32 (since 1970) IUGG Publications Office, 39 ter, Rue Gay-Lussac, Paris V, France (annually)

Philippines: Manila Observatory "Solar Maps and Activity", Manila Observatory, P.O. Box 1231, Manila, Philippines (monthly)

Switzerland: Bulletin of "Berne Solar Observations", Institute of Applied Physics, Div. of Solar Observations, Sidlerstrasse 5, 3012 Berne, Switzerland (since 1968)

Taiwan: *Report on Sunspot Observations* Taiwan Provincial Weather Bureau Observatory, Taipei, Taiwan (quarterly since 1957)

USSR: СОЛНЕЧНЫЕ ДАННЫЕ *(Solar Data)* USSR Academy of Science (monthly since 1958); КОСМИЧЕСКИЕ ДАННЫЕ *(Cosmic Data)* (monthly since 1962); *Magnetic Fields of Sunspots* (bimonthly since 1964)

USA: *Preliminary Report and Forecast of Solar-Geophysical Activity* Space Environment Services Center, NOAA, Boulder, Colorado 80303 USA (weekly); *Solar-Geophysical Data* NOAA, Boulder, Colorado 80303 USA (monthly since November 1955)

☆U.S. GOVERNMENT PRINTING OFFICE:1982—576-013 / 14

9